

# skin diver



©

*foremost authority in its field*

AUGUST 1977 \$1.50  
02099

## UNDERWATER STAMPS YOU CAN COLLECT

VISIT PENNEKAMP PARK'S  
CORAL WONDERLAND

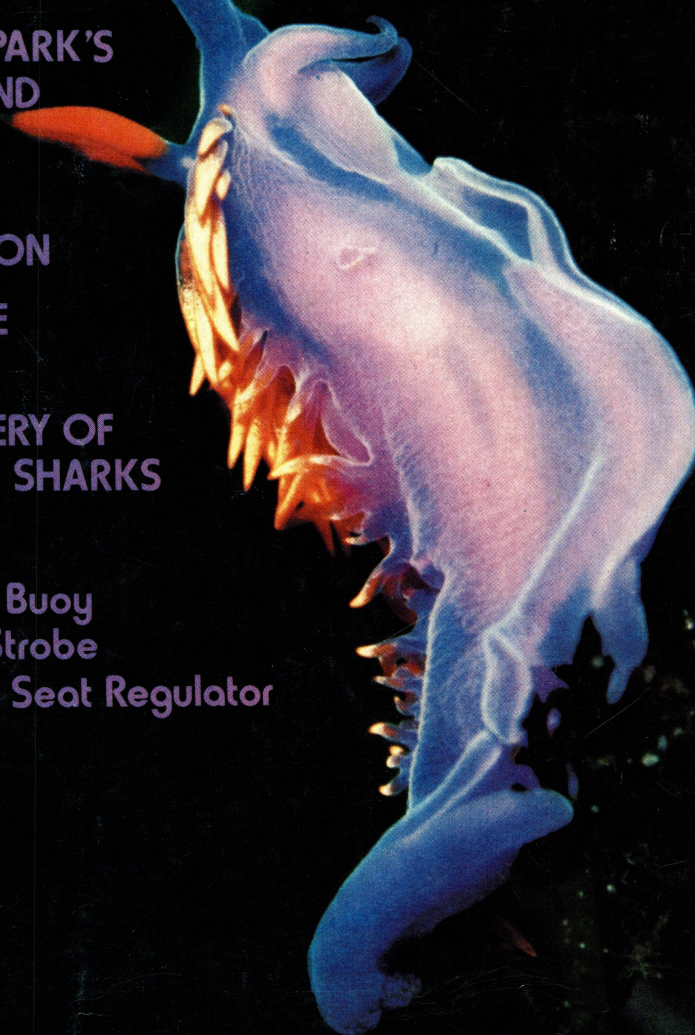
A CLOSE-UP  
LOOK AT THE  
CALIFORNIA CABEZON

TIPS ON INFLATABLE  
BOAT SEAMANSHIP

PONDER THE MYSTERY OF  
MEXICO'S SLEEPING SHARKS

### SDM REVIEWS:

- PELICAN'S Marker Buoy
- SUNPAK'S Super Strobe
- CAVALERO'S Deep Seat Regulator





# THE WATCH, SCUBAPRO THE HAND, A SERIOUS DIVER



A serious diver wants his time to show above and below the water. SCUBAPRO Diver's Watches do exactly that. You get precise time from a fine Swiss movement, protected by a waterproof, shock-proof case. The design is solid and smoothly styled with a flush mounted stem and unique glass lens. And, for programming your day or night with equal efficiency, you are equipped with a sand-free bezel, luminous dial and automatic calendar. Maybe someone who isn't a diver wouldn't understand what SCUBAPRO time is all about. But you do—you're a serious diver, and you know the best diving time is a SCUBAPRO Diver's Watch. Available in white or black bezel and backed by a world-wide warranty.

**AVAILABLE ONLY IN SELECTED DIVE STORES**  
Send \$2.00 for the New Full Color Catalog and  
Free Wet Suit Decal and Car Decal. Scubapro,  
Dept. S, 3105 Harcourt, Compton, Calif. 90221.



# This is a hard times wet suit. You should have one.

Everybody owns something like it. Maybe a favorite jacket or a special camera. Maybe the car we hate to let go, an old hat, maybe a knife. • Whatever it is, it's the thing we go to in the pinches. • We've bought things to replace it—but we've still got it. It may show signs of wear but it works as well as it ever did and what we bought to replace it is gone. • Its secret is simple. It was made right. • We make the suit shown for the good times, but it's one of those hard times wet suits. Nothing fancy, no gimmicks, no extravagant claims. It's our basic wet suit. • But, when the hard times come you'll be glad you invested in its quality. It's a Sea Suit. • That's one of the things about the hard times, you find out who your friends are. • SEA SUITS...we know quality satisfies ...it always has.



## SEA SUITS

837 W. 18th St., Box 245,  
Costa Mesa, CA 92627  
(714) 642-1912  
Dealer inquiries invited



# sea suits

QUALITY SATISFIES



# skin diver

VOLUME TWENTY-SIX  
NUMBER EIGHT

## features

### adventure

- 34** THE SHARK CAVES OF ISLA MUJERES • JESSE CANCELMO  
*Home of the famous sleeping sharks of the Yucatan*

### equipment

- 36** THE PELICAN FLOAT • JIM HALL  
*An inexpensive marker-recovery system*
- 38** INFLATABLE SEAMANSHIP • ADRIAN VANCE  
*Inflatable boats bring a new dimension to diving*
- 50** CAVALERO'S NEW HIGH PRESSURE REGULATOR • JIM HALL  
*A forerunner of a new style of domestic regulators*
- 56** THE SUNPAK MARINE 28 • JIM AND CATHY CHURCH  
*A new strobe to brighten your underwater photographs*

### marine life

- 44** CALIFORNIA CABEZON • HILLARY HAUSER  
*This master of disguise is no male chauvinist*

### photography

- 46** U/W PHOTOGRAPHY IN 12 EASY LESSONS • JIM AND CATHY CHURCH  
*Lesson 8: Wide-Angle U/W Photography*

### you can do it

- 52** U/W STAMPS OF THE WORLD • JACK AND SUE DRAFAHL  
*Collecting your own miniature works of art*

### wreck diving

- 60** INTACT AT 140 FEET! • ED ROBINSON  
*The WWII submarine Bluegill is one of Hawaii's super dives*

### travel

- 80** PENNEKAMP PARK • PAUL J. TZIMOULIS  
*America's fabulous undersea playground*

### departments

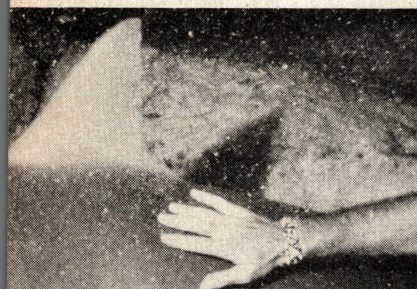
- |                      |                             |                             |
|----------------------|-----------------------------|-----------------------------|
| <b>6</b> U/W FORUM   | <b>26</b> FISH OF THE MONTH | <b>58</b> NEWS BRIEFS       |
| <b>12</b> CALENDAR   | <b>42</b> NEW GEAR          | <b>64</b> MEDIFACTS         |
| <b>19</b> SCUBA EXAM |                             | <b>98</b> DIVER'S DIRECTORY |

### staff

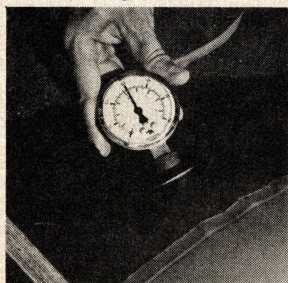
- |   |                                       |
|---|---------------------------------------|
| PAUL TZIMOULIS <i>Editor-Publisher</i>    | CONNIE JOHNSON <i>Managing Editor</i> |
| ART SMITH <i>Art Director</i>             | NANCY ACKERMAN <i>Senior Editor</i>   |
| BONNIE J. CARDONE <i>Assistant Editor</i> | BEA HACKLER <i>Ad Artist</i>          |

### contributing editors:

- |  |  |
|--|--|
| BILL BARADA <i>Environmental Editor</i>        | HILLARY HAUSER <i>News Editor</i>                |
| JIM & CATHY CHURCH <i>Photographic Editors</i> | JIM HALL <i>Technical Editor</i>                 |
| E. R. CROSS <i>Technifacts Editor</i>          | CHARLES V. BROWN, M.D. <i>Medical Consultant</i> |



34/Catching ZZZZZ's



38/Full of Air



52/Subsea Stamps

### cover

This *Flabellina iodinea* (purple nudibranch) was photographed near Santa Cruz Island, one of Southern California's channel islands, in 40 feet of water. Jack Drafa used a Nikon F in an Oceanic housing and a Vivitar 102 strobe. Shot at f16, 60 seconds, six inches from subject.



SKIN DIVER MAGAZINE, © Copyright 1977 by PETERSEN PUBLISHING COMPANY. All rights reserved. Published monthly by Petersen Publishing Company, 8490 Sunset Blvd., Los Angeles, California 90069. Second class postage paid at Los Angeles, California, and at additional mailing offices. Single copy \$1.50. Subscription inquiries phone (213) 657-5100. Subscription rates: U.S. Possessions one year \$10.95, two years \$19. All other countries one year \$11.95, two years \$21. CONTRIBUTIONS: Should be mailed to 8490 Sunset Blvd., Los Angeles, California 90069. They must be accompanied by return postage and we assume no responsibility for loss or damage thereto. Any material accepted is subject to such revision as is necessary in our sole discretion to meet the requirements of this publication. Upon acceptance, payment will be made at our current rate, which covers the author's and/or contributors right, title and interest in and to the material mailed including but not limited to photos, drawings, charts, and designs, which shall be considered as text. The act of mailing a manuscript and/or material shall constitute an express warranty by the contributor that the material is original and in no way an infringement upon the rights of others. CHANGE OF ADDRESS: Six weeks notice is required to change a subscriber's address. Please give both old and new address and label. Mail to P.O. Box 3295, Los Angeles, CA 90028. POSTMASTER: Please send form 3579 to Skin Diver Magazine, P.O. Box 3295, Los Angeles, California 90028.



**If you don't think this is  
the world's best regulator  
we'll give you your money back.**

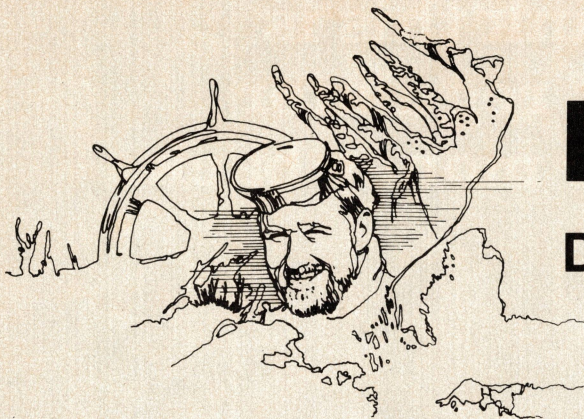


**WATERGILL**

It costs no more to buy the very best.

We're making no bones about it, the WATERGILL FSDS-100 (Fail Safe Diving System) is unquestionably the world's best regulator. And we're ready to back it up with a two week trial, money back guarantee. Here's why! The FSDS-100 is actually two regulators in one. The first unit provides front line air supply for normal breathing. The second unit acts as a back up safety regulator as well as an independent air supply for: Equipment recovery, automatic reserve air, concurrent buddy breathing, multiple tool usage, buoyancy control . . . in fact the FSDS-100 offers so many benefits that there isn't enough space in this ad to list them all. So if you're interested in owning the best value of any regulators get the whole story from one of our participating dealers. For the name of the WATERGILL dealer nearest you and a free copy of the FSDS-100 technical brochure write to: WATERGILL, 18030 So. Euclid Avenue, Fountain Valley, CA 92708. Phone (714) 979-6730.





# Editorial

## Dropouts...Who's Dropping Who?

by the Publisher

**L**ike the weather, everybody talks about diving's dropout problem but no one does anything. The situation is serious, and appears to be growing worse. Current evidence indicates that while scuba classes continue to be going strong, fewer people are sticking with diving after they graduate.

In an effort to get at the root of the problem, SKIN DIVER recently conducted a series of interviews with dive equipment manufacturers, dealers, instructor associations and scuba dropouts. While the stories varied, the reasons tended to fall into three basic categories: 1) discouraged during training; 2) nothing to do underwater; 3) nobody to dive with. As incredulous as it may sound, many people are being turned off to diving either during training or just afterward. These people feel they are being neglected by their scuba instructor, dive shop or both.

Turnoff during training may possibly be one of the greatest problems in this sport today. Many people quit class because of the insensitivity and macho behavior of the instructor. These instructors spend far too much time telling gory sea stories about shark attacks, near drownings, and other conjured evils of the sea. While the instructor considers it a joke, the student is often badly frightened.

Another area of overkill is dive medicine. Some instructors dedicate entire lecture sessions to incredibly advanced medical dissertations on theoretical accidents which rarely happen. As one student described it, "Our instructor taught us 37 different ways to die underwater, but never once mentioned how we could have fun."

A major contributing factor to student turnoff is the fact that many classes are designed for the convenience of the instructor rather than the needs of the student. People are rushed through their basic scuba skills in brief pool sessions. If they don't immediately catch on, they are pushed into the next exercise skill. The problem becomes compounded as the student finds it increasingly difficult to learn secondary skills when the primary ones were never fully mastered. The result is a lack of confidence, and

many students feel as though they are skating along on very thin ice. The climax of this sad saga usually comes during the open water check-out dive. Secretly harboring a deep seated feeling of vulnerability, the scuba student finds it impossible to cope with the skill requirements in open water. The student fails and the instructor shakes his head, wondering what went wrong.

For those who manage to complete their basic training, graduation is an empty victory. Most scuba classes today offer little more than training in equipment handling, underwater physics, medicine and survival. Little or no attention is devoted to what a diver can do underwater. Once the basic class is over, the student is dropped like a hot potato.

The instructor associations admit that few instructors offer any type of advanced diver training program. Instructors are reluctant to teach such courses because they are harder work, more difficult to conduct, or represent additional liability. As a result, the basic scuba graduate never gets to learn the fun part of diving. He is not taught how to catch a lobster, where to search for antique bottles, or how to restore a brass artifact discovered on a wreck dive. Most dropouts consider themselves fortunate to have survived their basic scuba class, and quickly move on to some other sport which promises more fun.

The third most commonly heard excuse for dropping out is the lack of a dive buddy. Most new divers find at least one dive buddy among the other students in their basic scuba class. Usually, they pair up and continue to be active in the sport until one or the other stops diving. This leaves the remaining diver buddyless.

Where does a person go to find a new dive buddy? At first it might sound like a simple problem which could be quickly remedied, but it seems that diving has no organized procedure for handling this dilemma. Most dive stores do not run a placement service for helping buddyless divers. Frankly, they are ignored. At one time dive clubs filled this need, but many of today's instructors do not send their graduate students to dive clubs. Again

the link appears broken, and the buddyless diver finds it very difficult to get back into the sport.

When one views the situation from the dropout's point-of-view, it becomes instantly clear this sport is not doing its very best to make newcomers feel welcome or appreciated. Scuba students are not dropping diving — it is diving that is dropping the students. We require people to go through a rigorous trail of physical endurance, mental anguish and mental gymnastics in order to obtain a basic certification card. Yet once they have passed this test of fire, and proven themselves worthy, we turn our backs on them and fail to provide a just reward for their efforts. Isn't it about time that we take a good hard look at our present scuba training programs and find some way to make this sport more inviting?

Diving needs reform. It's time to reorganize our approach to diving, our attitude toward students and our basic philosophy. Diving is a beautiful sport filled with adventure, excitement and enjoyment. It's time we showed people how they can fully enjoy diving.

Where do we start? Here are just a few suggestions which could change things overnight and make this sport better:

1) Let's remove the medical mumbo jumbo and scare stories from basic scuba classes. Early impressions stick with new scuba students throughout their lives. A scuba class should be an enjoyable experience, not an endurance contest.

2) Let's put a hard push on for advanced scuba training, open water classes, extension courses and specialty programs. People will get a lot more out of diving if they are properly taught what to do, where to look and where to go for exciting underwater experiences. Scuba is merely the tool, the vehicle which helps people reach the undersea world. The fun begins when you start doing things underwater.

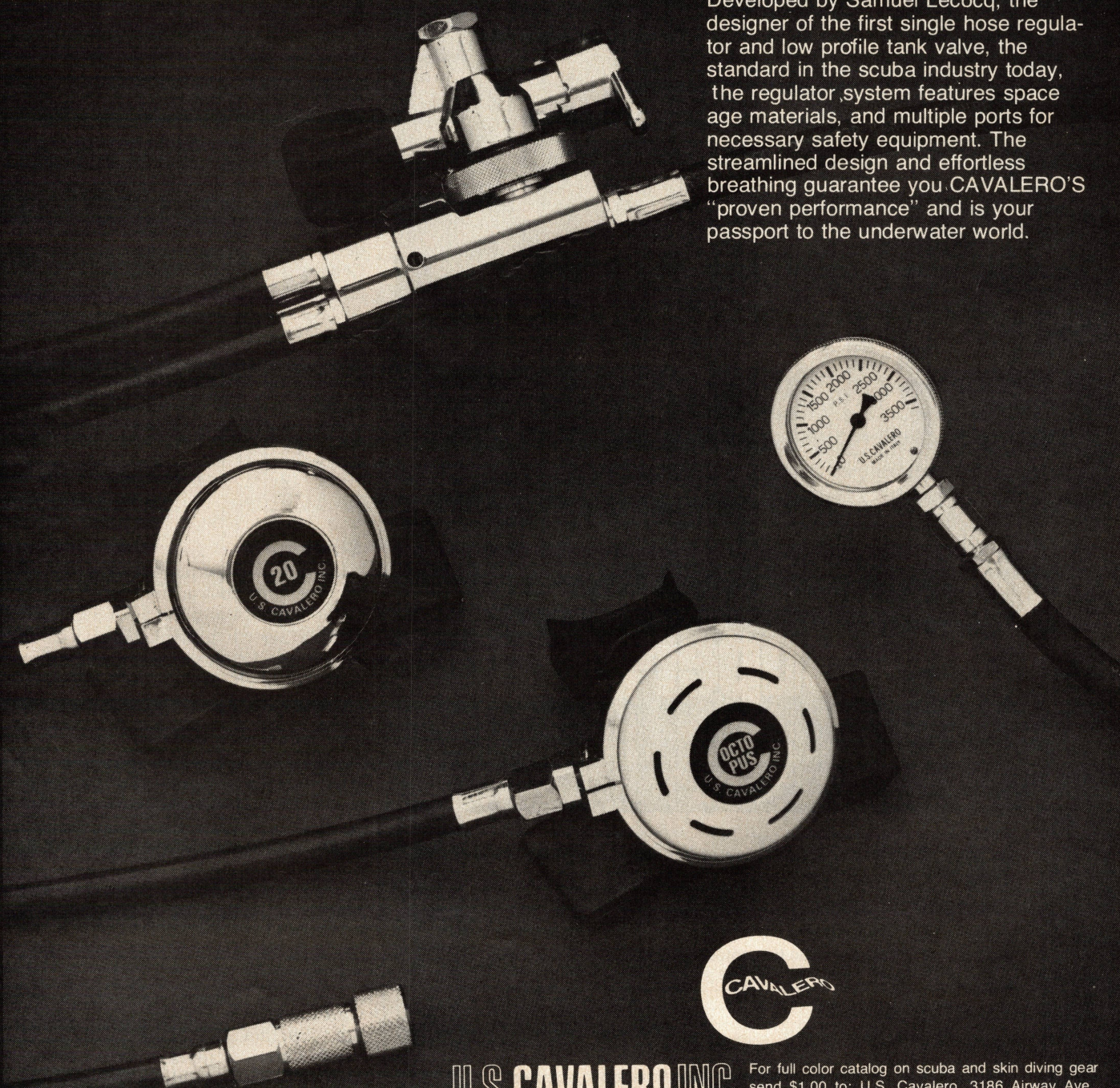
3) Maybe it's time for scuba stores to start offering free workshops (once a month) on such activities as: antique bottle identification, saltwater aquarium-keeping, artifact restoration, scallop div-

(Continued on Page 16)



# THE BEST OF EVERYTHING

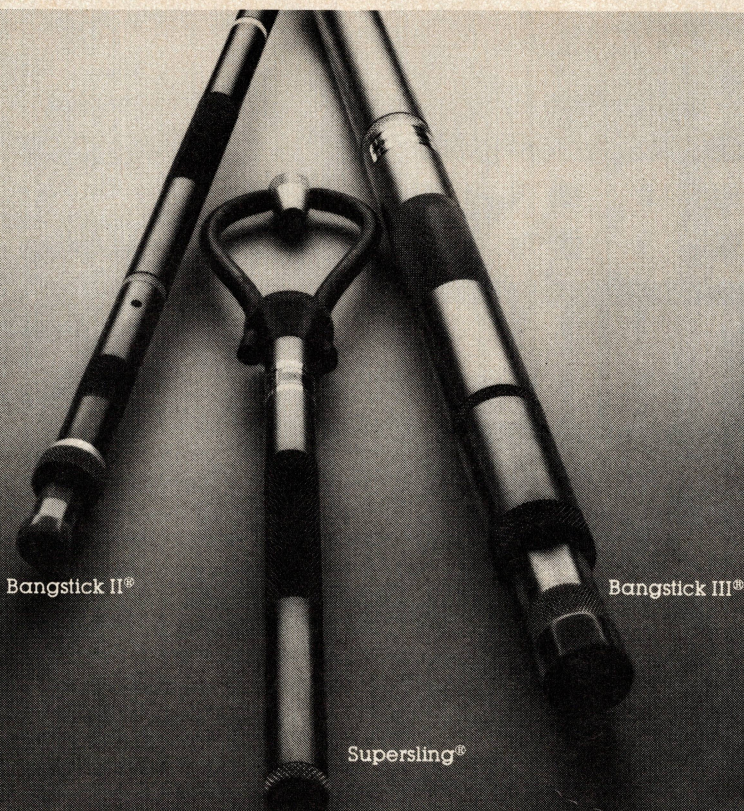
U.S. CAVALERO is proud to present a unique and revolutionary new concept in underwater breathing equipment, the CAVALERO SCUBA SYSTEM, C.S.S. The system, designed to be used with high pressure air up to 5000 P.S.I. uses a direct regulator to valve connection, eliminating the conventional yoke attachment and completely enclosing the O-ring for a perfect seal, a MUST for high pressure systems. Developed by Samuel Lecocq, the designer of the first single hose regulator and low profile tank valve, the standard in the scuba industry today, the regulator system features space age materials, and multiple ports for necessary safety equipment. The streamlined design and effortless breathing guarantee you CAVALERO'S "proven performance" and is your passport to the underwater world.



**U.S. CAVALERO INC.**

For full color catalog on scuba and skin diving gear send \$1.00 to: U.S. Cavalero, 3186 Airway Ave., Bldg. F, Costa Mesa, Ca 92626. Phone 714/540-9455.





# Gary Bangstick

The Gary Bangstick® is the most effective, convenient, and reliable underwater gun available.

- Greater bullet velocity with greater penetration and shock
- Maximum explosive effect through complete ignition of powder
- Rapid repetitive shots
- Ease of handling
- Reliability
- Safety

# Gary Supersling

The Gary Supersling® is a highly sophisticated underwater speargun with unsurpassed accuracy and reliability in a compact configuration.



TO: Belcher Industries Inc.  
P.O. Box 557412, Miami, Florida 33155  
Telephone (305) 666-1015

Bangstick II® (.38 Special & .357 Magnum)	\$ 89.95 <input type="checkbox"/>
Bangstick III® (12 Gauge)	\$149.95 <input type="checkbox"/>
Supersling® (The Speargun for professionals)	\$ 24.95 <input type="checkbox"/>

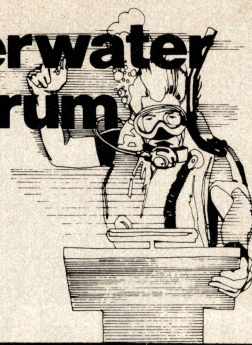
Name

Address

City/State/Zip

Send check or your Mastercharge or BankAmericard number.  
Please add \$2.00 for each item for postage and handling.  
4% Sales tax for Florida residents. Dealer inquiries invited.

## Underwater Forum



### St. Thomas

We were thrilled to see your magnificent spread on St. Thomas. The photos are excellent, and the cover photo of the Rhone wreck is top-notch.

We realize that you did have a limited amount of space with which to work; however, we feel that you did a grave injustice to a man on St. Thomas who has contributed very much to the improvement of diving on the island. Dave Fredebaugh, owner of the Lagoon Undersea Center, is known by residents of the island as the man to dive with . . .

Dave is well-known for his patience, integrity, and his "clean air." Although his facilities do not come close to matching those of the larger dive shops on the island, Dave has a well-stocked small shop, and he specializes in very personal attention to each and every one of his customers and divers . . .

M. KUNZ ST. THOMAS, U.S.V.I.

### Staying Fit

As a diving instructor I have enjoyed your editorials but as one with a doctorate in exercise physiology and 28 years of experience improving the physical fitness of adult men and women I must say that you made several boobos in the editorial, Staying Fit for Scuba Safety, published in the January, 1977, issue of SKIN DIVER Magazine.

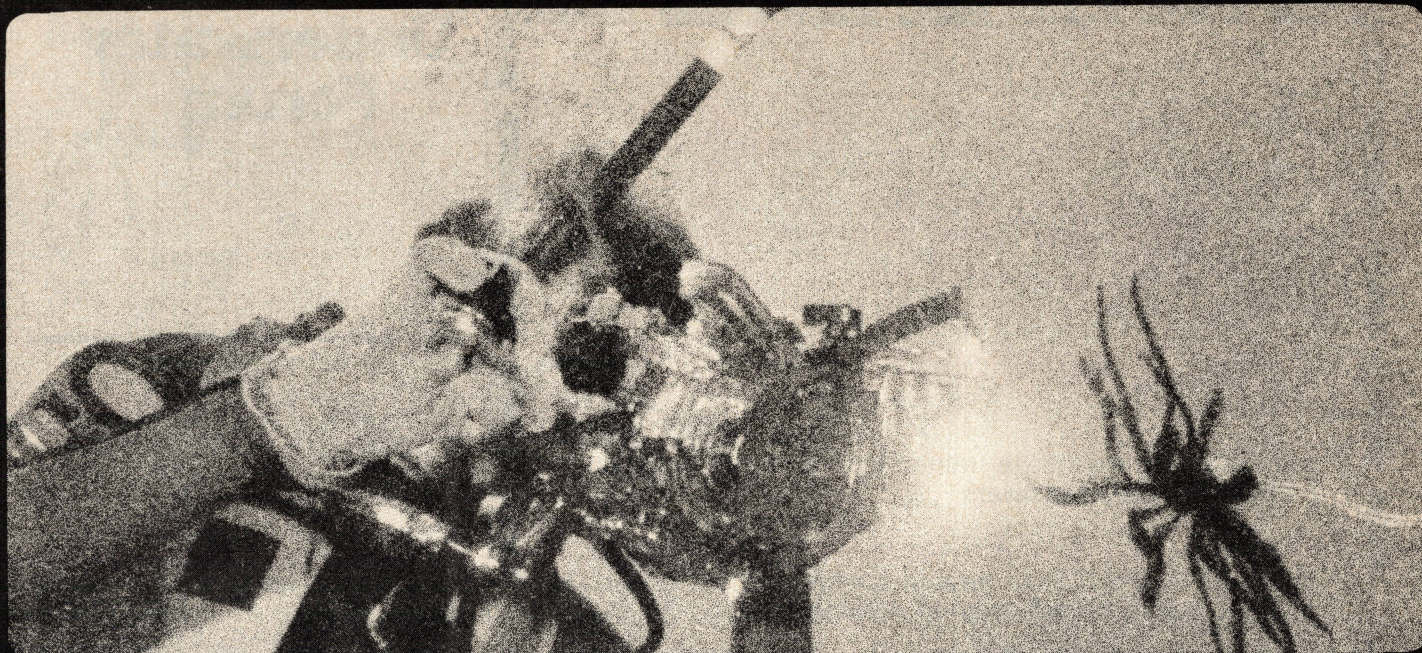
Allow me to break it down and 'see' what you said. In the first paragraph, "... lost strength and stamina he worked so hard to build up in scuba class." It is doubtful that anyone ever became physically fit from taking scuba lessons. . .

How can one stay fit? Two dives each month? Or a specialty course? Possibly one might keep his skills sharpened with two dives each month but never his physical fitness. . .

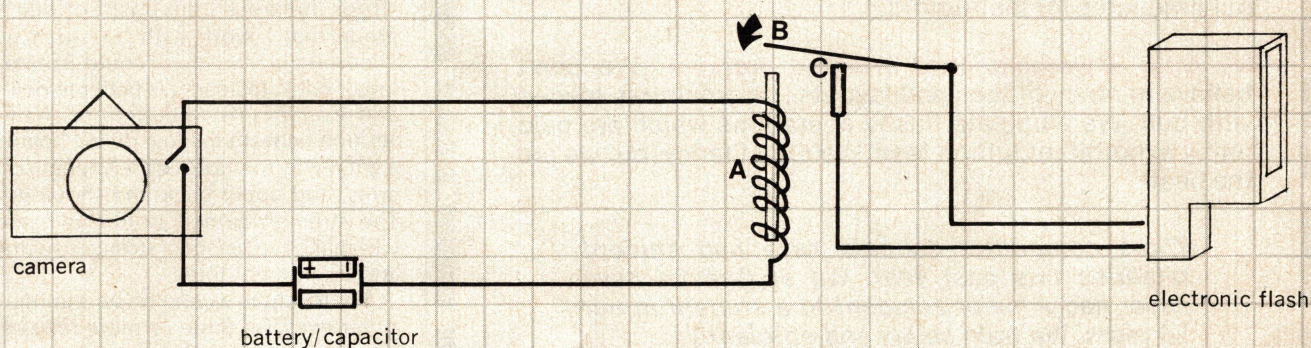
How does one get physically fit? You were on target by suggesting a simple but rigid program. The 'target' idea is great, too, as is the self-appraisal. It would even be better to jog (slowly of course) down to the local YMCA and obtain a good evaluation of your physical fitness. . .

Swimming is probably the best exer-





# IKELITE SST SYSTEM



Through Electronics, the IKELITE Solid State Triggering (SST) System brings flashbulb dependability to the electronic flash.

## HOW THE SST SYSTEM WORKS

IKELITE camera housings and the IKELITE Nikonos Power Packs utilize a 22½ volt battery/capacitor. When the camera shutter is depressed, it closes the circuit, sending 22½ volts to the Solid State Triggering device in the strobe housing. The Solid State Triggering device does electronically, what an old-fashioned relay would do mechanically: In an old-fashioned relay, as current passed thru (A) it would act as a magnet. The magnet field created would pull down on lever (B), making contact at point (C), which is part of the electronic flash synch circuit. As contact is made at (C), the synch circuit is closed, thus firing the electronic flash. This way the electronic flash synch circuit travels a minimal distance and is totally isolated from the 22½ volt circuit and the water.

The SST System also allows the use of our NEW #4109 "T" Connector for dual flash.  
#4109 "T" CONNECTOR \$19.95

IKELITE SST means dependability and convenience in underwater electronic flash.

**UNDERWATER SYSTEMS**  
3303 N. ILLINOIS ST.  
INDIANAPOLIS, IN. 46208  
P.O. BOX 88100

Manufacturers of underwater lighting, direction, photographic equipment. Ask your pro shop or send \$1.00 for catalog and free "Capture the Sea" sticker.



# #1 WE'RE

## 2nd to none and proud of it!

In our 28 years we have trained over 4,500 professional commercial deep sea divers.

**We're not owned by any worldwide corporation**...no branches in the U.S. or foreign countries. (This doesn't produce quality or make a good working diver.)

**We specialize in diver training only.** One school with one objective: training of the finest, selective, exceptional quality working divers. We train divers for the oil industry, construction, salvage, research, NOAA. Also foreign students, U.S. Coast Guard strike teams, U.S. Special Forces Group and State of California divers. Many of our former students now own their own diving companies or are diving superintendents. Even competitor schools use our graduates for instructors.

**We offer a working diver oriented program.** We don't believe in fancy offices and layouts...or brochures loaded with bull. We eliminate flashy operations which are paid for by exhorbitant tuition fees. We're not fancy, but we are the best!

*Three competitor schools have had student fatalities this past year. We at Coastal have never had a major accident to a student in our 28 years. We train safely and efficiently.*

**We are the oldest, the biggest, the best** and therefore the most copied. If you want to join the ranks of successful divers, this is the place!

**\$1295 for 11½ weeks. The lowest in the industry.**



Avoid imitators!  
No other school is a  
branch or affiliate.

Get the full story. Send \$2.00 for a copy of  
"Your Future in Deep Sea Diving." No obligation.

**The Coastal School of Deep Sea Diving**

320 - 29th Avenue  
Oakland, CA 94601

**SD-87**

Enclosed find \$2.00. Please send my book.

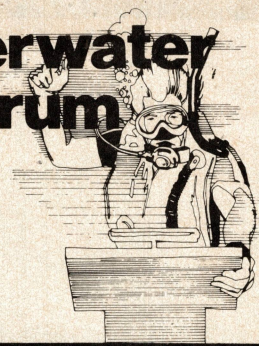


Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

## Underwater Forum



cise for divers but, that statement about "minimum number of pool laps for the first day," is less than good advice. There is too much chance for a copout. I would suggest that each workout be no less than 30 minutes including the first one. The person can start in the shallow end, swim to the deep end and back to the shallow. If need be a rest can then be taken and then the swim routine is repeated. . .

It is also good for a diver to swim some laps wearing his fins. Most of us drag our legs when we swim so the arms get a pretty good workout. When we put on fins the opposite is true. The in-training diver also needs to do some exercises out of the water. I usually do not suggest situps because the post-college age group that I work with has such weak abdominals that situps could irritate the lower back. Instead it is better to do curls and reverse curls. Pullups from a hanging position beneath the low diving board are a good way to improve the strength of the arms, and upper back and shoulders. . . The strength gained from this exercise will make the person a stronger swimmer and equipment toter.

Six to eight weeks of swimming and other exercise three or more times each week will do wonders. . .

Improvement in physical fitness does not improve diving skills but it does offer those skills a sound foundation. So, in order to regain one's skill a few pool scuba sessions are in order before that big trip. The practice sessions need some guidance. An instructor should give the students or novice divers a set of tasks to do or they probably will play around. . . A set routine by an instructor should include those little things the diver has perhaps forgotten.

And finally, I agree that after going through such an exercise program as I sketchily described that, "You're a lot safer than the guy who is wheezing and puffing. . ."

J.J. JOSEPH, ED.D.

DOWNERS GROVE, ILL.

### Monterey Dive Ordinance

The Monterey Dive Ordinance is being enforced and tickets are being issued to violators. Recently a student on a tank checkout came off of McAbbee



Beach, paused by the bench near the Tia Maria loading zone, and removed tank, weight belt and wet suit top. A ticket was given for "dressing and undressing in an undesignated area." Tickets at this time require an appearance in Monterey Court to plead at a preliminary hearing. A plea of not guilty requires a second trip for a trial before the judge. At this time, we do not know the amount of fines that may be imposed.

There are no signs detailing the ordinance but "ignorance of the law is no excuse . . ."

We will keep you informed of actions resulting from the above-mentioned ticket. In the meantime, read the law as it now exists. For a copy of the Monterey Dive Ordinance, write to: Carol Rose, Cen-Cal Recording Secretary, Central California Council of Diving Clubs, Inc., 849 W. Orange, #4015, S. San Francisco, Calif. 94080.

CENTRAL CALIF. COUNCIL  
OF DIVING CLUBS, INC.

### Dive Problems in Texas

Texas diving is, for the most part, deep diving, 50 to 100 feet is an average depth to dive along our coast or in the lakes. We have cold water, strong currents, cave diving, dangerous marine life, and drunk divers to contend with, but the most dangerous thing of all are the dive instructors who turn out hundreds of students every year that are not prepared to dive safely.

The very first time I went out into the Gulf of Mexico on a dive boat, I had eight people out of 28 on the boat, come to me and ask me to show them how to use their dive tables. Four divers never got below 20 feet because they knew nothing about taking safe decongestants until after I had a talk with them . . . Since that time I have found that new divers being unprepared for the sea to be the rule rather than the exception.

The organizations that are certifying the instructors may be doing an excellent job of teaching but that is no guarantee that the new instructor will in turn be a good teacher . . . Another point to consider is that a lot of students rarely see the instructor because the classes are taught by assistants who have often just received their basic certification. I only saw my instructor four times during the entire course; we were lucky because he had some excellent assistants.

What can be done about it?

My suggestion is that the course be separated from the qualification test so that the instructor is not certifying his own students. If a diver certification test was given by someone completely separated from the teaching end, it could almost eliminate unprepared students from becoming certified. The organizations could use their "certifiers" to keep the instructors abreast of the latest information and teaching methods. The test results would show the effectiveness of

## COLORED T-SHIRTS



**\$6.00 ea.**

INCLUDES DOMESTIC,  
SURFACE POSTAGE

**ORDER YOURS TODAY...Here's All You Do**

PICK YOUR FAVORITE FROM THE DESIGNS SHOWN ABOVE AND TELL US WHAT COLOR SHIRT YOU WANT IT ON. (SELECT COLOR FROM THOSE LISTED BELOW...GIVE 1ST & 2ND CHOICE.) • DON'T FORGET TO LIST THE SIZE YOU NEED! • ADD \$1.00 PER SHIRT IF YOU WANT AIR MAIL. • ADD \$1.50 PER SHIRT FOR FOREIGN POSTAGE CALIFORNIA RESIDENTS MUST ADD 6% SALES TAX.

- COLORS WE SUPPLY •
- GOLD • YELLOW •
- LIGHT BLUE • TAN •
- WHITE •

SEND CHECK OR MONEY ORDER TO:

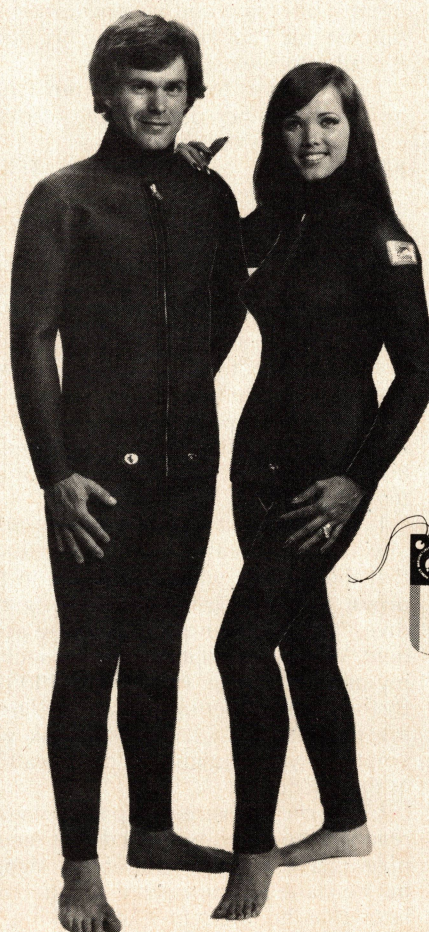
**DIMENSION 2**  
1021 BAY BLVD., SUITE S  
CHULA VISTA, CA. 92011

**ADULT  
SIZES ONLY  
S, M, L & X-L**

**QUALITY SHIRTS BY**

**DEALER INQUIRIES ENCOURAGED!**

**DIMENSION 2**



**"If you want a  
Form Fitting  
Custom Wet Suit  
... ask for  
Harvey's!"**

**Made for Professionals,  
Priced for Sport Divers  
and So Comfortable  
You May Never Want  
to Take It Off!**

Send \$1.50  
for Harvey's  
new catalog.



**HARVEY**  
FORM FITTING CUSTOM  
**WET SUITS**

2505 South 252nd Street  
Kent, Washington 98031  
(206) 824-1114



## INTERNATIONAL CONFERENCE



## ON UNDERWATER EDUCATION

Sept. 29 - Oct. 2, 1977  
MIAMI BEACH, FLORIDA

Americana Hotel

## Activate

- Attend 30 Sessions
- View 50 Exhibits
- Win One of 6 Trips
- Win Dive Gear
- Challenge Key Leaders
- Applaud Award Winners

## Participate

- Pool Demos of Gear
- Socials
- Judge Photo Contests

## Debate

1. Diver Buoyancy - Best method to use?
2. Diver Rescue - Do we expect too much?
3. Decompression - How and when?
4. Buddy Breathing - One best way?
5. Ban Cave Diving?

- Don't miss the largest sport diver conference held annually.
- Register Now.
- Attendance Limited.

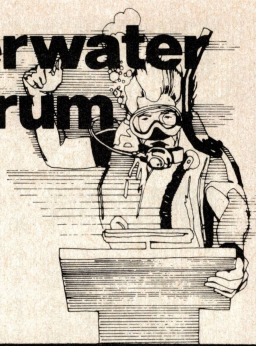
## FREE\*

- Complete IQ9 Brochure
- Registration Forms
- \* Naturally, to attend IQ9 isn't free, but still a good deal.

## IQ9

Box 630, 22809 Barton Road  
Colton, CA 92324

## Underwater Forum



each instructor's course, and keep the instructors from being pressured into certifying someone.

If the instructor had to pay the certifier five dollars for each time a student took the test, with a limit of two tests and then a washout, then he would make a more determined effort to see that his students were qualified to pass the tests the first time and everyone would benefit.

My solution is simple but I believe that it would also be effective.

C. A. WRIGHT HIGHLANDS, TX

### San Salvador

... I went to San Salvador last November and it was everything SKIN DIVER said it was — and more.

I saw and photographed big groupers, big fish of all kinds, a big lobster, a big crab, lots of rays, a sea turtle, and much more. I also saw and photographed the dolphin that Paul mentioned in his article. It really does exist. . .

I was please to find out from Paul's article that other divers have also encountered this dolphin. . .

JOHN S. LEE. DALLAS, TEXAS

### Buddy Breathing

A recent experience of mine might be of interest to those of your readers following the buddy breathing dispute. A few weeks ago I had to make a buddy breathing ascent from 80 feet while I was diving with friends in the Cayman Islands. 15 of us were conducting a deep dive to 110 feet from a boat anchored in 80 feet of water. Toward the end of the dive. . .

I noticed that it was becoming gradually harder to breathe and checked to see that the J-valve, which I had put in the down position before beginning the dive, had not been pushed up by accident. When I found it down, I rechecked my pressure gauge, which read 500 psi. By then I wasn't getting any air at all from my regulator; it felt like the tank was empty. I swam straight to a diver waiting at the anchor. . .

I was on the verge of panic when I reached the diver, whom I didn't recognize. I gave him the "out of air" signal, but he started to turn away. (He told me later that he thought I was joking.) I caught hold of his BC, jerked him back,

## skin diver

### PETERSEN PUBLISHING COMPANY

R. E. PETERSEN	Chairman of the Board
F. R. WAINGROW	President
HERB METCALF	Senior Vice President
PHILIP E. TRIMBAUCH	V.P., Finance
WILLIAM PORTER	V.P., Director, Circulation
JACK THOMPSON	Assistant Director, Circulation
T. SWIFT LOCKARD	Director, Advertising Marketing
ARTHUR ZARIN	Director, Research
SPENCER NILSON	Director, Administrative Services
ALAN C. HAHN	Director, Market Development
JAMES J. KRENEK	Director, Manufacturing Services
AL ISAACS	Director, Graphics
BOB D'OLIVO	Director, Photography
MARIA COX	Manager, Data Processing Services

### SDM ADVERTISING REPRESENTATIVES

Mike Nomad/Los Angeles Paul Roberts/New York  
Al Gomber/Chicago Lynn Ebro/Atlanta

### ADVERTISING OFFICES

ATLANTA  
615 Peachtree Street, N.E.  
Suite 414  
Atlanta, Georgia 30308  
(404) 876-0781

BOSTON  
Prudential Tower, Suite 4850  
Prudential Center  
Boston, Mass. 02199  
(617) 262-7400

CHICAGO  
John Hancock Center  
875 N. Michigan Avenue  
Suite 3131  
Chicago, Illinois 60611  
(312) 222-1920

CLEVELAND  
Bond Court Building  
Suite 1001  
1300 East 9th Street  
Cleveland, Ohio 44114  
(216) 696-7900

DETROIT  
333 W. Fort Street Building  
Suite 1800  
Detroit, Michigan 48226  
(313) 964-6680

LOS ANGELES  
8490 Sunset Boulevard  
Los Angeles, Calif. 90069  
(213) 657-5100

NEW YORK  
437 Madison Avenue  
New York, N.Y. 10022  
(212) 935-9150

### PETERSEN ACTION GROUP

437 Madison Avenue  
New York, N.Y. 10022  
(212) 935-9150

Russ Weller  
Midwest Advertising Director  
John Hancock Center  
875 N. Michigan Avenue, Suite 3131  
Chicago, Illinois  
(312) 222-1920

Duke Q. Manor  
Western Advertising Director  
8490 Sunset Boulevard  
Los Angeles, Calif. 90069  
(213) 657-5100





and again gave him the "out of air" signal. He immediately passed his regulator to me, keeping hold of it with one hand. We both had hold of the anchor line by then, so we started to inch our way up . . .

Our journey ended when I was within a half breath of the bottle we had hung at ten feet for emergencies. . . I'm not sure how long I stayed at ten feet, but I was still so in need of air that I hung on for at least 15 rapid deep breaths. I then went to the surface, using the automatic inflator on my BC. My pressure gauge still read 500 psi and I found that my regulator was functioning.

I sat on the stern platform for a few minutes breathing deeply and telling war stories. In the meantime, some helpful soul got me out of the backpack, took my regulator off the tank valve, and removed the cylinder from the backpack so we could get ready for the next dive. By the time I tried to find the tank to see what had happened, it was in the stack of empties and I couldn't identify it. Late in the week, Dave McKnight, who had arranged the trip, found rust in some of the tanks, which, we suspect, caused the stoppage. . .

This is a long letter but maybe it will convince your readers that buddy breathing training and practice are worthwhile for everyone. . . I use an octopus and would prefer that everyone I dive with have one. However, many of my friends rent equipment and don't always have access to rental octopus rigs. . .

I do not agree with Fred Calhoun (SDM, Jan. 77, p. 14) that buddy breathing should be an advanced skill. It may not be a foolproof method of providing air to another diver, but it could be the only one available.

P.G. SCHMEELK ARLINGTON, VA.

## Hypothermia

I read with some interest the article about hypothermia, mainly the part about rewarming the diver on reaching the surface. Most divers are involved in more than just one sport and if any of your readers are skiers or backpackers, some will have in their closets garments insulated with Polarguard or Dacron II. Both of these synthetics are not adversely affected by water, they will absorb only one percent of their weight in water.

I have found that upon reaching the surface and quickly toweling off . . . and by getting into a lightweight Polarguard parka and insulated skiers warm-up pants, the rewarming is sped along . . . Since these garments are usually made of rip-stop nylon the effects of the wind are just about nil. Also, if any of your readers intend to purchase such garments, I would advise that they buy dark colors so they can use the heat from the sun to help warm them . . .

J. MARRANO, JR.

CHICAGO, ILL.

## MARK IT QUICK OR LOSE IT

### The Pelican Float® - A Marker Recovery System

A versatile portable buoy that can mark a find or even save your life.

Pelican Products' Marker-Recovery System is a compact, reusable plastic buoy, only 8 inches long x 3 inch diameter, but carrying 100 feet of highly visible 225 lb. test tether line and non-drag anchor. High-visibility body with Scotch-lite reflective rings and stainless steel accessories, the unit can be quickly deployed on the surface or is neutrally buoyant until deployed underwater to pin-point diving and fishing "hot spots" . . . grid-mark for search and recovery work. Comes complete with Harness Clip. Patent Pending. Make extra money recovering lost valuables.

### The Pelican Rack®

Tired of tanks rolling, rocking and banging up your boat . . . of diving gear lying carelessly all over the place. Then get organized with the Pelican Rack from Pelican Products

**UNCONDITIONAL MONEY-BACK GUARANTEE**

Includes Postage, Tax and Handling.

☐ Marker-Recovery System \$18.50

For Canada, Hawaii add \$1.00 postage

☐ 4-Pac Tank-Rack, \$30.00

For Canada, Hawaii add \$3.00 postage

☐ 6-Pac Tank-Rack, \$38.00

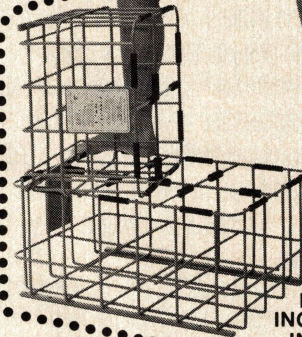
Not available outside continental U.S.A.

RED  
YELLOW  
Available in  
Selected  
Dive Stores

**PELICAN PRODUCTS**

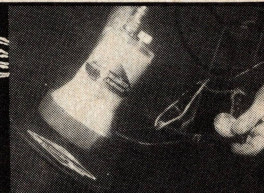
P. O. Box 1511, Torrance, Ca. 90505

336 VIA PASQUAL



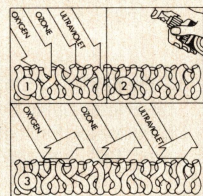
DEALER  
INQUIRIES  
INVITED

FIND OUT how to  
**DETECT TREASURE**  
in the September **skin diver**



## FIGHT ROT.

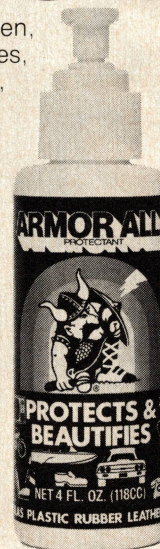
Rot is a monster. He comes from oxygen, ozone, ultraviolet rays. He cracks, fades, and deteriorates things made of vinyl, plastic, rubber, leather, wood. But ARMOR ALL Protectant forms a last-



ing shield of protection against Rot. It rejuvenates and beautifies treated surfaces on your car, in the house, on the patio, in the garage. Nothing — no wax, polish, or cover-up — fights Rot like ARMOR ALL Protectant.

**ARMOR ALL**  
PROTECTANT  
MAKES YOUR WORLD LESS ROTTEN™

© Very Important Products, Inc. 1977



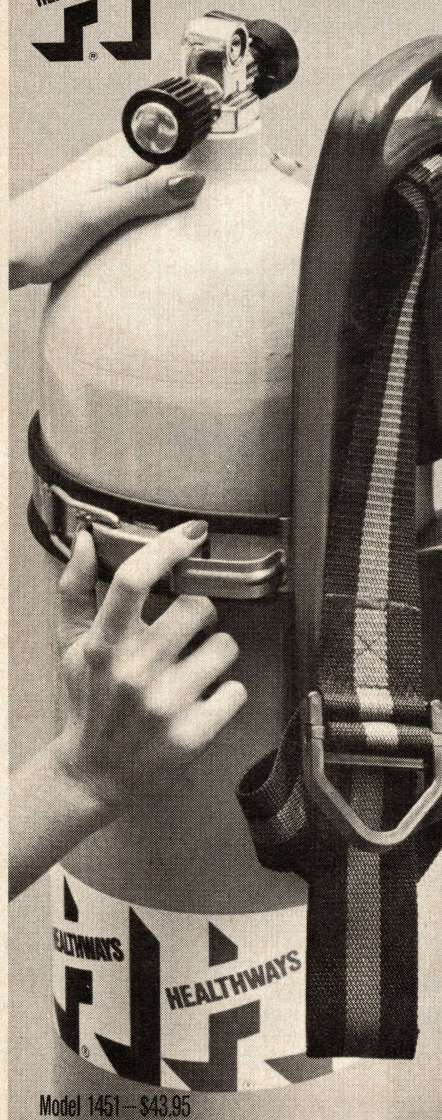


# SCUBAMASTER QUICK-CAM IS A SNAP!

This Healthways Scubapak® offers a stainless steel latch and band that fits all popular single tank sizes without extra bands or gadgets. The contoured frame is light, strong and permits three carrying positions. Quick-adjust and quick-release buckles throughout. Many other thoughtful features for the serious diver. Healthways has meant professional quality for 25 years. Get the whole story...send \$1.00 for our SCUBA 77 Catalog.

## Healthways

5340 West 102nd Street, Los Angeles, Calif. 90045  
(Canada: 50 Prince Andrew Place, Don Mills, Ontario)



Model 1451—\$43.95

## Calendar



Sept. 3-5

Southwest Council of Skin Diving Clubs scuba nationals, Lake Amistad, Amistad Lodge, Del Rio, Texas (Contact: Ed Ralston, 3401 N. Meridian Court, Oklahoma City, OK 73122)

Sept. 3-5

Montana Dive Festival, Flathead Lake (Contact: Christy Elsenpeter, 618 Third Ave., Laurel, MT 59044)

Sept. 10-14 (opening program)

Downunder 77, 5th World Underwater Congress (CMAS), Brisbane, Australia (Contact: Bay Travel Inc., 2435 East Coast Hwy, Corona del Mar, CA 92625)

Sept. 15-26 (12 day cruise)

Downunder 77, CMAS cruise of Coral Sea (Contact: Bay Travel Inc., 2435 East Coast Hwy, Corona del Mar, CA 92625)

Sept. 16-17

13th Annual U/W Film Festival, San Diego Civic Theatre, 8 p.m. (Contact: Frank Trousdale, % San Diego U/W Photographic Society, P.O. Box 82782, San Diego, CA 92138)

Sept. 17

NAUI Underwater Film Review, John Hancock Hall, Boston, MA (Contact: Fred Calhoun, PO Box 291, Back Bay Annex, Boston, MA 02117)

Sept. 23-25

DiveMark 77, 3rd Annual Scuba Instructors Convention, Rockport, MA (Contact: John Burrage, 29 Hull St., Beverly, MA 01915)

Sept. 29-Oct. 2

IQ9, Miami Beach, FL (Contact: NAUI Hdqrs, 22809 Barton Rd., Grand Terrace (Colton), CA 92324)

Sept. 30-Oct 2

2nd Annual Great Lakes Dive-In, Playboy Club, Lake Geneva, WI (Contact: Bill Nuvotny, Aqua Center, 717 Morton Ave., Aurora, IL)

Oct. 25

Entry deadline, 15th annual Int'l Underwater Photographic Competition. (Contact: Underwater Photographic Society, P.O. Box 7088, Van Nuys, CA 91409)

November 5

6th Inward to the Sea Int'l U/W Show, Lisner Auditorium, George Washington Univ., Washington, DC (Contact: Inward to the Sea, PO Box 41010, Washington, DC 20014. Phone (202) 347-0206)

January 15

Entry deadline, Boston Sea Rovers 1st Annual U/W Photo Contest. (Entry forms & rules from: Ken Lavigne, 66 Laurence St., Methuen, MA 01844)

## Underwater. Under \$215.



The new Fujica Marine-8 AX100. The camera is even more amazing than its price.

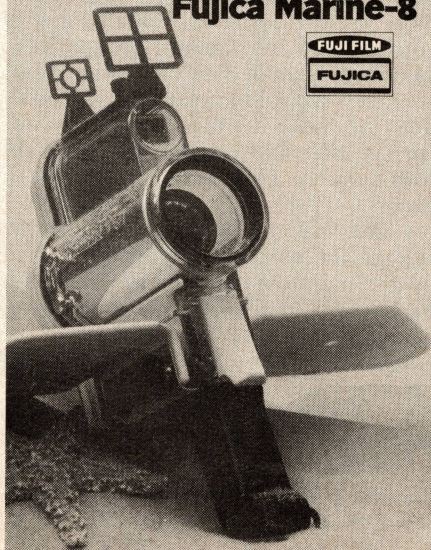
First, a unique combination of fast lens, wide shutter, and higher-speed Fuji color film lets you take clearer pictures with less light than ever before. A clear advantage underwater.

Next, almost foolproof operation. Lightweight compact design. And a rugged underwater housing (pressure resistant down to 40 meters) complete with stabilizer fins.

Finally, easy removal from casing. So when you come up for air, you have a superb "home" movie camera.

Fujica Marine-8 AX100. It's at your local Fuji Movie Center today. And at our price, it'll be in the oceans of the world tomorrow.

### Fujica Marine-8





# TIMES CHANGE !



**1965**

In 1965, divers had a limited amount of equipment to deal with. Just a mask and fins, a nylon 1 side wet suit, a tank and regulator, occasionally a Mae West and sometimes a snorkel stuck alongside their knife. It wasn't all that good or safe, but it only took two or three open water classes to learn its use.



**1977**

In 1977 there's lots more equipment available. It's more complicated and it's much safer.

You still have mask, fins, and snorkel, but the wet suits have nylon on both sides and the regulators are equipped with 2 second stages and a submersible pressure gauge. There are sophisticated buoyancy control units with automatic control features and gauges that provide information on depth, time, direction, and even keep track of your no-decompression time.

All this equipment makes diving easier, safer, and more fun, but it takes longer to become proficient in its use. Students aren't even exposed to all the equipment in 2 or 3 open water classes, let alone given time to master its use.

Let's face it, you can't learn to dive with 1977 equipment using 1965 techniques.

SSI eliminated the 2 open water class program and offers **ONLY** the **ADVANCED OPEN WATER DIVER** certification with 6 open water classes. We want you to learn all you need to know so you can have fun in the water safely.

That's our commitment to quality!



SCUBA SCHOOLS INTERNATIONAL 1634 S. College Ave. Ft. Collins, CO 80521 (303) 482-0883



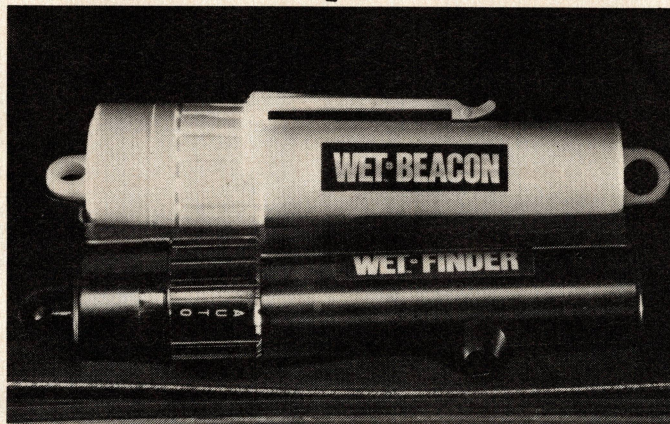
# WET•BEACON™/WET•FINDER™

**To  
mark  
the  
spot.**

From lost divers to lost treasure, WET•BEACON and WET•FINDER team up to provide accurate relocation that can work continuously for weeks.

Police, fire and other search and rescue teams find that WET•BEACON and WET•FINDER allow them many successful missions. Search patterns can be set and checked electronically. And all divers can be notified when the "find" is made.

Both WET•BEACON and WET•FINDER are lightweight, economical to operate and easy to use, hand-held or tethered. Just follow your nose whenever your WET•FINDER blinks its bright light. Go more than five degrees off course and the light



**To  
lead  
you  
back.**

emitting diode goes out.

Sport divers will want them to mark their favorite sites. Or the position of an object they want to recover next time.

At night or in murky water, WET•BEACON and WET•FINDER provide buddy-contact or contact with support vessels, the shoreline or anything else you care to mark.



WET•BEACON and WET•FINDER, from the makers of WET•PHONE™, the leading underwater communications system.

**Sound-Wave Systems Inc.**

3001 Red Hill Avenue, Costa Mesa, CA 92626, 714/540-3700.  
Send \$1.00 for a complete WET•SYSTEM™ catalog.

## Tune Up For Top Performance

**W**hy waste energy? A detuned regulator is like a car that needs a carburetor adjustment — both waste gas.

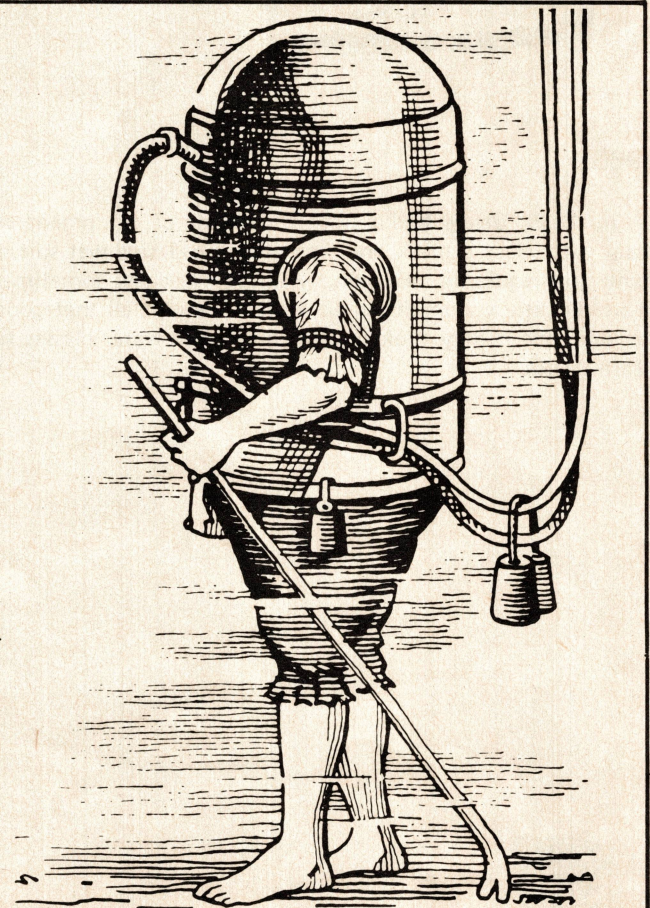
**B**y having your regulator tuned annually you will dive easier and gain extra bottom time.

**S**ee your professional dive store for a complete tune up today.

**GET MORE OUT OF DIVING**

By patronizing a pro dive store

A Skin Diver Community Service Message





## Boston Sea Rovers Photo Contest

The Boston Sea Rovers has announced its first annual underwater photo contest, to be held in conjunction with the 24th annual International Underwater Clinic in Boston, on March 4, 1978. This contest will accept all photographs taken along the East Coast from Canada to Washington, D.C. All must have been taken by the contestant within this region only. Photographers not residing in the region may enter providing their work is of this area.

All winners submitting prints will have their work exhibited during the day program at Boston University. Winning slides will be shown during the night program at John Hancock Hall, Boston. The divisions will be 2 x 2 inch color slides, black and white prints, and color prints. Categories in these divisions will consist of marine life and scenic compositions (wrecks, divers, etc.) Prizes will be awarded in each category. All finalists must be present to receive their awards. Entry forms and detailed rules may be obtained by writing to Ken Lavigne, 66 Lawrence St., Methuen, Mass., 01844. The closing date for all entries is January 15, 1978.

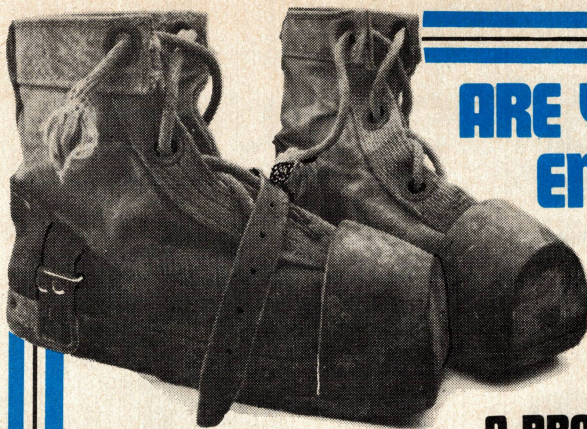
## UC Davis Chamber

An excellent training aid is on hand for the divers of Northern California. A double-lock recompression chamber with 100 percent oxygen delivery capabilities is located on the campus of the University of California, Davis. The team members who operate the chamber are all NAUI certified divers or instructors, including the physician, Dr. Richard Larkey. Funds for the purchase of the chamber were made available from the campus department of environmental health and safety, research grants and private donations.

At the moment, the chamber is being utilized exclusively in the support of the various diver training programs at the University. The chamber is operated by a team headed by Dan Morris and Dick Bell, both NAUI instructors.

There are plans for the utilization of the chamber in research. Dick Bell and Reid Borgwardt (NAUI instructor) have extrapolated the U.S. Navy Dive Tables to include the ascension from sea level to altitude for scuba diving and will use the chamber, the physiology laboratory and Lake Tahoe in testing their theory.

Dive instructors are invited to introduce their students to the effects of pressure by taking a chamber dive. Anyone desiring further information should contact Donald G. Morris, U.C. Davis diving officer, at (916) 752-3044 or (916) 752-1493 or Richard L. Bell, Ph.D., U.C. Davis Chemical Engineering Dept, at (916) 752-0400.



# ARE YOU MAN ENOUGH TO FILL THESE BOOTS?

## THE BOOTS OF A PROFESSIONAL COMMERCIAL DIVER



HIGH PAY.  
WORLD TRAVEL.

THE KIND OF CAREER MOST  
MEN ONLY DREAM ABOUT.

Are you mechanically oriented  
and don't mind hard work?

Do you feel strongly about  
getting ahead with real  
challenges and big awards?  
Do you want more out of life  
than just a job? Then we can  
help you prepare for success  
in a career as a professional  
commercial diver.

Mail this coupon:

### COMMERCIAL DIVING CENTER

272 So. Fries Ave., Wilmington, Ca. 90744 Tel: (213) 834-2501

C.D.C. is the only Diver Training Division of OCEANEERING INTERNATIONAL, Inc., the largest independent diving contractor in the world today, with companies in over 16 foreign countries.

Please send me a **FREE** copy of  
"IF YOU WANT MORE THAN JUST A JOB."

NAME \_\_\_\_\_ AGE \_\_\_\_\_

ADDRESS \_\_\_\_\_

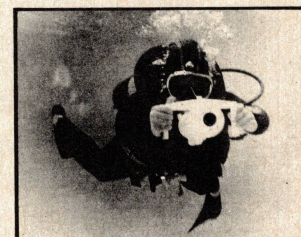
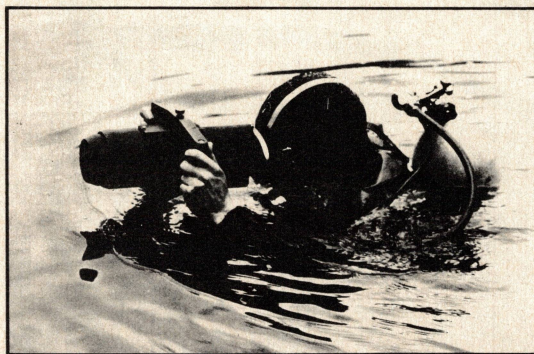
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

TELEPHONE \_\_\_\_\_ S8 \_\_\_\_\_

## WHAT DO YOU KNOW About MANATEES? FIND OUT!

in September with  
**SKIN DIVER**

## LB 400 AQUASCOPE



**LB 400 AQUASCOPE: A PASSIVE LOW LIGHT  
OBSERVATION DEVICE FOR UNDERWATER AND  
SURFACE SURVEILLANCE TASKS.**

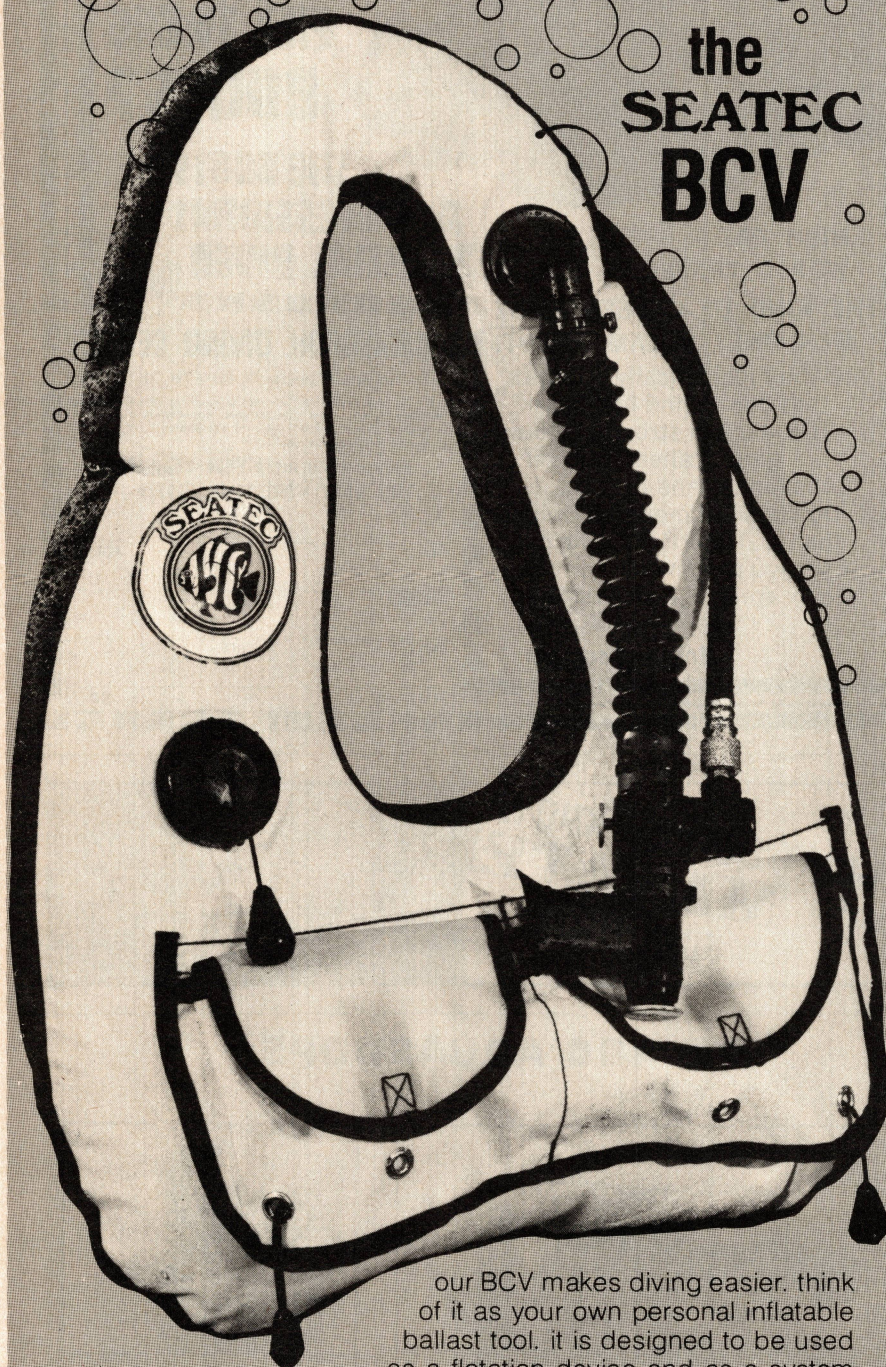


MULTI SYSTEMS INTERNATIONAL  
612 / 854-8201  
P.O. BOX 1506 • TWIN CITIES INTERNATIONAL AIRPORT  
ST. PAUL • MINNEAPOLIS, MN 55111 • CABLE (MULTINT) • TELEX 25-0871



# Your Ballast Buddy

the  
**SEATEC  
BCV**



our BCV makes diving easier. think of it as your own personal inflatable ballast tool. it is designed to be used as a flotation device and as a system to control and trim buoyancy while underwater. it's available at your local pro dive store from the people at **SEATEC** . . the people who care.

425 West Palmyra St., Orange, CA 92666

(714) 639-6664

See the entire Seatec line at your pro dive store.  
Send \$1.50 for full color catalog and Seatec decals.

DEALER INQUIRIES INVITED



## San Diego U/W Film Festival

Tantalizing glimpses into the underwater world will be presented at the 13th Annual Underwater Film Festival, to be held September 16 and 17 at 8 p.m. in the San Diego Civic Theater. The festival is sponsored by the San Diego U/W Photographic Society.

Host for the event is Jack McKenney, former editor of *SKIN DIVER* Magazine. Now a free-lance underwater camera man and film producer, McKenney will show two of his films, *Things That Go Bump in the Night*, and *The Joy of Diving*.

Other films which will be shown to festival audiences include: *River in the Sea*, by Bob DeRuff; *DevilFish of Canton Island*, *Medusa and The Octopus in Love and War*, by Dr. Lee Tepley; *Don't and The End of the Game* by Robin Lehman; and *I Am the Sea*, by Ozzie Wissell.

The San Diego UPS Photographic Society is a non-profit organization dedicated to the promotion of underwater photography.

cludes slide series by local photographers, selected from competition. Color enlargements featuring submarine subjects from around the world, as well as an extensive collection of antique and modern U/W photographic equipment, will be on display in the theater lobby.

Those attending the performances will receive a complimentary four-color souvenir program with many photographs, including one suitable for framing.

Tickets for the performances are \$4.50 for each night, and may be purchased at the door. Advance sales for the non-reserved seats will be held at the San Diego Civic Theater box office and local dive shops. They may be ordered directly from Frank Trousdale, c/o The San Diego Underwater Photographic Society, P.O. Box 82782, San Diego, Calif. 92138.

## Editorial

(Continued from Page 4)

ing, underwater photography, etc., etc. Turning people on to special underwater activities is good business.

4) Maybe it's time for instructors and/or scuba stores to start organizing monthly social gatherings. A wine and cheese party or beach cookout would be a good way of helping people find new dive buddies and perhaps more diving fun. This sport is yearning for more social activities and events.

Let's put the welcome mat out for newcomers. It's time to make a concentrated effort to bring new divers into that tight circle of dive activities and events. An outstretched hand and a smiling face can make all the difference in the world, as to whether that new diver sticks with the sport or decides to try something else, such as tennis, skiing, or sailing.



# Get your body in gear by Sherwood.

Now, there are three more good reasons to get in gear by Sherwood. First, the new 3000 psi pony bottle made especially for redundant diving systems or for wreck and cave diving.

Second, a new 3000 psi cylinder with 94.6 cubic feet for more time down under.

Third, a new 3000 psi piston reg-

ulator with swivel yoke and a work-horse design that comes clean faster than any regulator you've ever owned or rented.

Along with these, there are all the other Sherwood regulators, valves and cylinders that are continuing to make Sherwood the first choice of both dive shops and divers alike.

Sherwood backs each dollar you invest with over forty years of experience, plus a lifetime service and repair warranty.

Tempt yourself with the new scuba selection and warranty protection that Sherwood has waiting for you. Get the new Sherwood catalog at your Sherwood dealer. Or send \$1.00 and the coupon today.



## SHERWOOD

SHERWOOD SELPAC CORP.  
A HILL ACME COMPANY  
PRECISION VALVES AND  
REGULATORS FOR GAS CONTROL

120 Church St. • Lockport, New York 14094 U.S.A.

### DISTRIBUTORS:

SELPAC CORP.  
3190F Airport Loop Dr.  
Costa Mesa, CA 92626

RAY MURRAY, INC.  
Box 385  
Stockbridge, MA 01262

McTIER SUPPLY CO.  
Box 761  
Lake Forest, IL 60045

SELPAC SOUTHEAST  
3020 Adriatic Court  
Norcross, GA 30071

HEALTHWAYS CANADA  
50 Prince Andrews Pl.  
Don Mills, Ontario  
Canada

### NEW CATALOG!

Clip and send along with \$1.00 to  
Sherwood Today!

Name

Address

City

State  Zip

SKIN DIVER/AUGUST 1977 17 SS-134



PLUNGE INTO "THE DEEP"...  
A SOUND EXPERIENCE.



By June 17th, over 200 million people will have read, seen or heard about "The Deep" more than 15 times...

and as 5 billion eyes are flooded with the message, now Casablanca surfaces with the soundtrack:

# THE DEEP

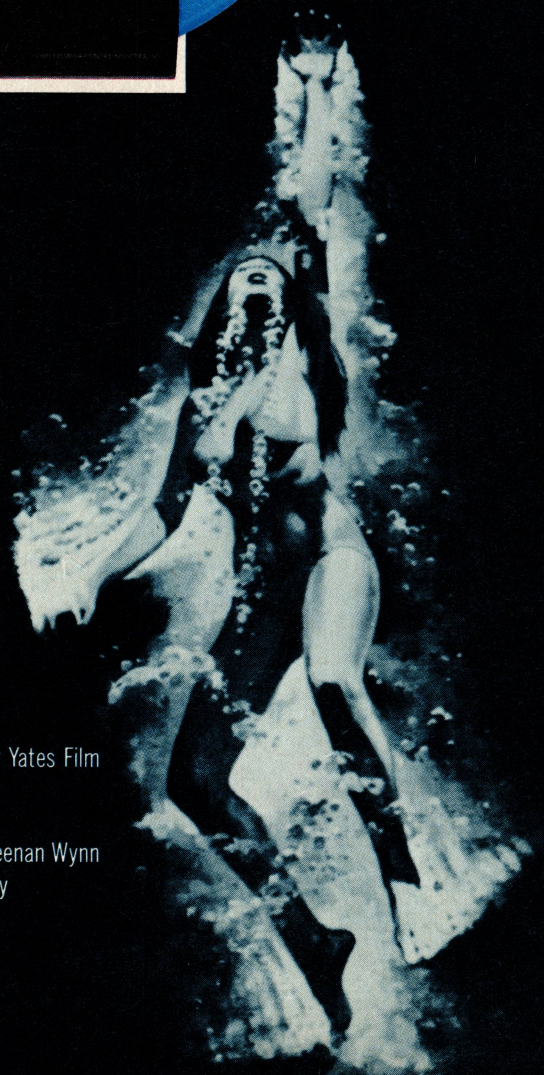
A Columbia/EMI Presentation • The Casablanca FilmWorks Production • A Peter Yates Film

ROBERT SHAW • JACQUELINE BISSET • NICK NOLTE

"THE DEEP" • LOUIS GOSSETT and ELI WALLACH

Based on the novel by Peter Benchley • Screenplay by Peter Benchley and Tracy Keenan Wynn

Produced by Peter Guber • Directed by Peter Yates • Music by John Barry





# SDM'S NATIONAL SCUBA EXAM

By Dennis Graver

## Category: Dive Skills

In order to be a safe diver, knowledge is required as to what to do under certain circumstances. Test your knowledge of dive skills by answering the following questions. Some questions have no reference, so knowledge would have to be gained from experience or from an instructor. Answers are on the following page.

1) Select the **true** statement:

- ☐ A. A buddy is only needed below 33 feet.
- ☐ B. The strongest swimmer should lead.
- ☐ C. The most experienced diver should lead.
- ☐ D. Always dive with a buddy.

2) If you become entangled underwater, the action to take is:

- ☐ A. Keep calm and wait for help.
- ☐ B. Slowly untangle yourself.
- ☐ C. Drop weights or inflate vest.
- ☐ D. Cut yourself free with a knife.

3) Select the occasion when it is permissible to cock a speargun:

- ☐ A. When testing the gun.
- ☐ B. When the safety is on.
- ☐ C. When in the water.
- ☐ D. When tip is covered.

4) To ditch a weight belt, a diver should:

- ☐ A. Simply release the buckle.
- ☐ B. Pull the belt clear of the body.
- ☐ C. Be upright in the water.
- ☐ D. Use both hands.

5) If at any time during a dive, you feel anxious or are having difficulty in any way:

- ☐ A. Swim to the surface.
- ☐ B. Share your buddy's air.
- ☐ C. Slow down and rest.
- ☐ D. Descend to the bottom.

6) If dizziness occurs during an ascent, a diver should:

- ☐ A. Increase the rate of ascent.
- ☐ B. Return to the bottom.
- ☐ C. Stop the ascent until stable.
- ☐ D. Assume a head-down position.

7) Immediately upon reaching a dive site, you should:

- ☐ A. Check your equipment.
- ☐ B. Locate the nearest phone.
- ☐ C. Evaluate dive conditions.
- ☐ D. Outline dive with buddies.

8) A buddy can be located most frequently if positioned:

- ☐ A. Above and behind you.
- ☐ B. Even with and alongside you.
- ☐ C. Directly behind you.
- ☐ D. Directly above you.

9) When initiating a descent, a diver should:

- ☐ A. Note the time or set bezel.
- ☐ B. Orient himself to the exit.
- ☐ C. Exchange snorkel for regulator.
- ☐ D. All of the above.

10) If during a scuba dive it becomes difficult to breathe from your regulator, you should suspect:

- ☐ A. The regulator is failing.
- ☐ B. You are diving too deep.
- ☐ C. A clogged filter or valve.
- ☐ D. You are low on air.

11) The long distance surface signal for "OK" is:

- ☐ A. Waving the hand overhead.
- ☐ B. Clenched fist extended overhead.
- ☐ C. Arms overhead with fingertips together.
- ☐ D. Arm overhead with thumb and forefinger together.

12) If your buddy panics at the surface, you should first:

- ☐ A. Orally inflate his vest.
- ☐ B. Mechanically inflate his vest.
- ☐ C. Remove his weight belt.
- ☐ D. Put his regulator in his mouth.

13) A properly weighted diver will float at about what level if relaxed, holding a normal breath and vertical in the water?

- ☐ A. Chin level.
- ☐ B. Eye level.
- ☐ C. Top of head level.
- ☐ D. Shoulder level.



# SDM'S NATIONAL SCUBA EXAM

- 1) **D. Always dive with a buddy.** There is less of a tendency to panic with a buddy present, and a buddy is invaluable should unconsciousness, heart attack, vomiting, etc. occur.
- 2) **B. Slowly untangle yourself.** Your buddy may not be aware of your problem. Getting buoyant can make things worse. Trying to cut yourself free can cause injury or damage. You can probably free yourself if you will first analyze the situation, then work carefully.
- 3) **C. When in the water.** Treat spearguns with great respect. They are designed to operate in the water. Serious injury is possible if a speargun should discharge out of the water. Spearguns should not even be cocked in the water when other divers are nearby at the surface.
- 4) **B. Pull the belt clear of the body.** Studies have shown that released weights do not fall away from the diver consistently. They hang up for numerous reasons. To be sure the belt will be ditched, hold onto one end when releasing it, and pull it clear of the body before dropping it.
- 5) **C. Slow down and rest.** Fight the temptation to escape to the surface when in difficulty. Reducing activity and taking slow, deep breaths will usually relieve feelings of anxiety or air starvation.
- 6) **C. Stop the ascent until stable.** Dizziness during ascent is usually due to the sense of balance being affected by a difference in pressure in each middle ear. Allow time for these areas to come back into equilibrium and the dizziness should pass, then ascend at a slower rate.
- 7) **C. Evaluate dive conditions.** Before doing anything else, make sure it is safe and worthwhile to dive. Large surf or a plankton bloom may render all other preparations unnecessary. Observe the dive area from a vantage point whenever possible.
- 8) **B. Even with and alongside you.** If buddies agree to remain abreast and maintain the same relative position with respect to each other, it is easy for each to locate the other. All one needs to do is look frequently to the appropriate side, and your buddy should be right there.
- 9) **D. All of the above.** Initiating a descent is more than just starting down. Check with your buddy, take a bearing on the exit, check the time, exchange snorkel for regulator, and deflate your buoyancy compensator.
- 10) **D. You are low on air.** Running out of air is due to lack of a submersible pressure gauge or failing to monitor one during a dive. There are practical reasons and safety reasons why you should maintain 300 to 500 psi of air in your tank at the end of a dive. Have and use a submersible pressure gauge. If it should get difficult to breathe because you are very low on air, remember you can make a normal ascent and "sip" additional breaths from the tank as the surrounding pressure decreases during ascent.
- 11) **C. Arms overhead with fingertips together.** This signal, forming a large "O," is easily detected from a distance. Another version, touching the fingertips of one hand to the top of the head, is used when one hand is occupied.
- 12) **C. Remove his weight belt.** When actual panic occurs, buoyancy must be established. Extending a surface float to the person in distress would be most ideal, but if no float is available, ditch the weight belt. Removing weights is quicker and more certain than relying on vest inflation. Ditch the person's weights from behind or from below the surface.
- 13) **B. Eye level.** With all the air removed from your buoyancy compensator and worked out of your suit, you should strive to be weighted to float at eye level when holding a normal (not maximum) breath. Neutral buoyancy is important to safety. Accident studies show overweighting is a contributing cause to many dive accidents.

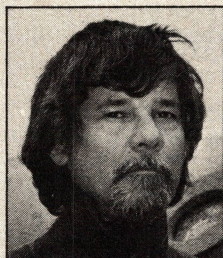
*How did you score? Did you know the correct action to take for each of the above situations? If these situations had occurred to you, would you have been prepared? Do you know what your buddy would have done? Both you and the people with whom you dive need to know what to do in various circumstances. Diving is changing rapidly as we learn more about the problems we must deal with in the underwater world. Equipment technology is advancing rapidly. To keep pace with these developments and to be a safer diver, one needs to be continually educated in the sport. Reading SKIN DIVER helps, as does enrollment in a continuing education course in diving.*



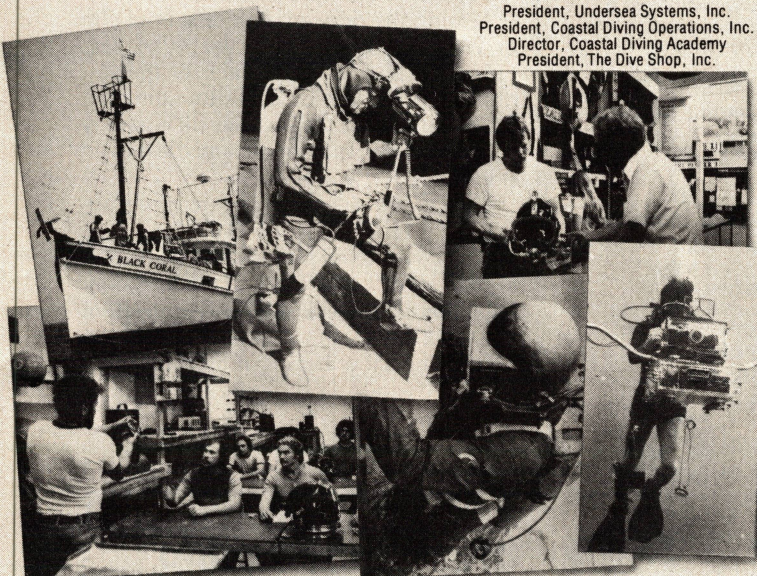
# "I've started thousands toward careers in sport and commercial diving."

Check off the career you want and send one dollar plus the coupon, below. By return mail you'll receive the complete 52-page CDA Catalog of Courses and other helpful information about careers in diving.

From deep sea diver to dive business management, CDA provides practical training by top pros under actual working conditions.



*Robert J. Shourot*  
**Robert J. Shourot**  
 President, Undersea Systems, Inc.  
 President, Coastal Diving Operations, Inc.  
 Director, Coastal Diving Academy  
 President, The Dive Shop, Inc.



\* Licensed by the New York State Education Department  
 \* Approved for training of veterans by the New York State Education Department

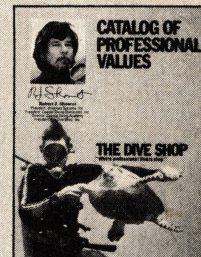
## COASTAL DIVING ACADEMY

106C West Main Street, Bay Shore, N.Y. 11706 (516) 666-3127



# "Now I'll equip you properly at prices you can afford."

We're expanding the services of Long Island's most professional diving equipment distributor offering top brands at very special prices. Order direct using the coupon, below, or send for our FREE Catalog of Professional Values.



FREE CATALOG  
 FREE DIVER DECAL

**U.S. DIVERS SCUBA SPECIAL**  
**\$199.95**

**COMMERCIAL DEEP-SEA HELMET**  
**\$980.00**

**BC V VEST W/ INFLATOR**  
**\$84.95**

**U.S. DIVERS PRESSURE GAUGE**  
**\$26.95**

**U.S. DIVERS ROCKET FINS**  
**\$17.95**

**DELUXE MASK**  
**\$11.95**

**SOS DECOM. METER WITH CASE**  
**\$59.95**

**SOS OIL FILLED DEPTH GAUGE**  
**\$21.95**

**U.S. DIVERS SUPER SUIT**  
**\$42.95**

**WENOKA BRAND DOUBLE SERATED KNIFE WITH LEG SHEATH**  
**\$16.95**

**CRESSI FULL-FACE MASK**  
**\$19.95**

**ACT NOW!** Advertised prices can only be guaranteed for one month after magazine issue date.

**IN NEW YORK AREA?** Present this ad in person, and with a \$25.00 purchase at THE DIVE SHOP, you will receive a free gift valued at \$10.00 retail.

## THE DIVE SHOP, INC.

110C West Main Street, Bay Shore, N.Y. 11706 (516) 665-2526

**COASTAL DIVING ACADEMY** 106C West Main Street, Bay Shore N.Y. 11706 SD-8

Here's my \$1. Please send me your catalog of CDA courses that can make me a commercial diver or get me started in the sport diving business. I am primarily interested in:

- |   |   |
|---|---|
| <input type="checkbox"/> Deep Sea Commercial Diver*           | <input type="checkbox"/> Scuba Certification                                |
| <input type="checkbox"/> Diver Technician-Tender*             | <input type="checkbox"/> Professional Instructor Certification (PADI, YMCA) |
| <input type="checkbox"/> U/W Cutting and Welding              | <input type="checkbox"/> Dive Business Management                           |
| <input type="checkbox"/> U/W Photography*                     | <input type="checkbox"/> Equipment Repair                                   |
| <input type="checkbox"/> Commercial Scuba & Scuba Instructor* | <input type="checkbox"/> Dive Shop Ownership                                |
| <input type="checkbox"/> Diver Instructor                     | <input type="checkbox"/> Undecided  |
| <input type="checkbox"/> Captains License                     |   |

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone ( ) \_\_\_\_\_

**THE DIVE SHOP** 110C West Main Street, Bay Shore, N.Y. 11706 SD-8

Please rush me the following:

**THE DIVE SHOP** pays all shipping costs but there is a \$2.00 service charge for orders under \$25.00.

- |  |  |
|--|--|
| <input type="checkbox"/> U.S. D. Super Suit, 3/4" \$42.95                  | Ht _____ Wt _____ Chest _____ Waist _____ Hips _____ |
| <input type="checkbox"/> Cressi full-face mask \$19.95                     |  |
| <input type="checkbox"/> Wenoka double serated knife \$16.95               |  |
| <input type="checkbox"/> U.S. D. SCUBA PACKAGE                             |  |
| Conshelf XII reg. 80 cu. ft. aluminum tank.                                |  |
| K-valve. Contour back pac \$199.95.  |  |
| (With J-valve \$214.95)  |  |
| <input type="checkbox"/> U.S. D. pressure gauge \$26.95.                   |  |
| (Free mounting on SCUBA PACKAGE)   |  |
| <input type="checkbox"/> Deluxe mask \$11.95                               |  |
| <input type="checkbox"/> Commercial deep-sea helmet \$980.00               |  |
| <input type="checkbox"/> BC V vest \$84.95                                 |  |
| <input type="checkbox"/> Rocket fins \$17.95                               | Shoe Size _____                                      |
| <input type="checkbox"/> SOS decom. meter w/ case \$59.95.                 |  |
| <input type="checkbox"/> SOS oil filled depth gauge \$21.95.               |  |
| <input type="checkbox"/> <b>FREE CATALOG OF PROFESSIONAL DIVING VALUES</b> |  |

Mail order purchase of life support apparatus must be accompanied by proof of certification.

Name \_\_\_\_\_

Address \_\_\_\_\_

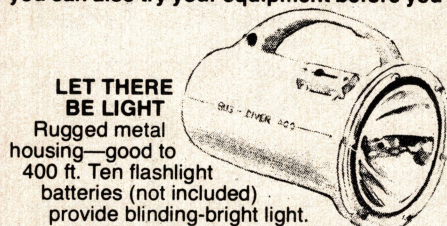
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Amount enclosed
\$ _____
N.Y. RESIDENTS ADD SALES TAX



# Shop the Honest Archie way!

Honest Archie has built Central into one of the largest and most reliable diving equipment dealers in the world. Each year tens of thousands of satisfied divers are properly equipped and happy that they have spare cash left over thanks to Honest Archie's low-profit big-volume price structure. Thousands of these divers have received the finest certified scuba instruction in Central's own indoor heated pool. where you can also try your equipment before you buy.



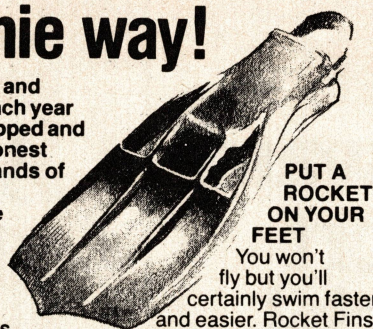
**LET THERE BE LIGHT**  
Rugged metal housing—good to 400 ft. Ten flashlight batteries (not included) provide blinding-bright light.

Failsafe magnetic switch.

**CENTRAL SPECIAL \$39.00**

Other lights from \$13.95. See catalog.

PRICES SHOWN ARE GUARANTEED UNTIL OCTOBER 1, 1977 ONLY

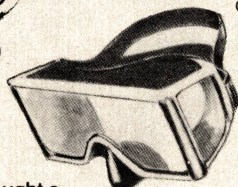


**PUT A ROCKET ON YOUR FEET**

You won't fly but you'll certainly swim faster and easier. Rocket Fins are used by UDT teams, USMC and the French Navy. Adjustable heel strap for use with or without boots.

**CENTRAL SPECIAL \$18.00**

Other fins from \$7.95. See catalog.



**WRAP-AROUND MASK**

You won't miss a thing with this double-edge, stainless rim, tempered glass, 180° vision, super-fit mask.

**CENTRAL SPECIAL \$20.00**

Other masks from \$8.95. See catalog.

**BOUYANCY COMPENSATOR**

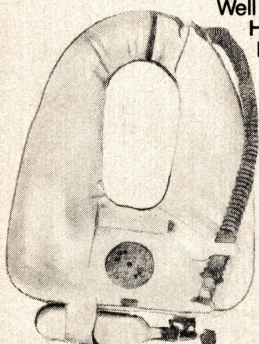
Would you buy one for \$184?

Well check this out!

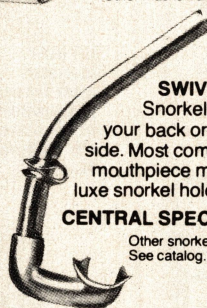
Honest Archie bought a limited quantity of these at such an unbelievable price that they must be limited to one per customer and no dealers please. Every deluxe feature plus a push-button reserve tank for a complete, breathable safety system. Approx. 4-minute air supply.

**CENTRAL SPECIAL**

**\$120.00**



Other buoyancy compensators available from \$29.95. See catalog.



**SWIVEL SNORKEL**

Snorkel face down, on your back or on your side. Most comfortable mouthpiece made. Deluxe snorkel holder.

**CENTRAL SPECIAL \$6.00**

Other snorkels from \$3.75. See catalog.

**UNDERWATER PRESSURE GAUGE AND OCTOPUS**

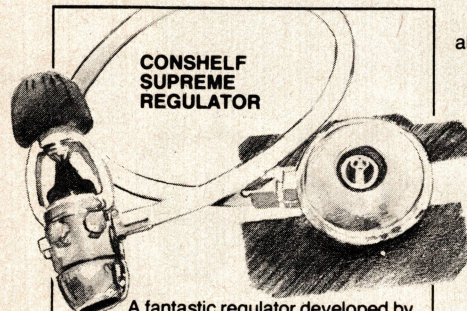
Safety first at all times. One of the finest, luminous, rubber covered pressure gauges for any regulator is now on sale. The absolute, finest Octopus made is now on sale.

**GAUGE SPECIAL \$30.00**

**OCTOPUS SPECIAL \$50.00**

Other instruments on sale. See catalog.

**CONSHLF SUPREME REGULATOR**



A fantastic regulator developed by Cousteau. U.S. Navy approved. Good to 1200 ft. Silicon-filled first stage for smooth inhalation at any depth. Cannot freeze-up at any temperature. Lifetime guarantee.

**CENTRAL SPECIAL \$99.00**

Other regulators available. See catalog.

**NYLON TWO SIDES SUIT**

Once we know your height, weight, chest, waist & hips you'll be into a fantastic 1/4-inch suit at a fraction of what you'd expect to pay. Stitched seams. Five zippers.

Custom-contoured in stock sizes for men and youths. XS, S, M, L, XL.

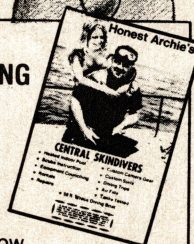
**CENTRAL SPECIAL \$75.00**

Other suits up to \$400. See catalog.



**GET SOMETHING FREE FROM HONEST ARCHIE**

Central's prices are low, but their 64-page catalog loaded with diving values is **ABSOLUTELY FREE.**



**CENTRAL'S SUPER-SPECIAL OF THE MONTH. MOST FAMOUS STROBE**

The most famous self contained underwater photo strobe never sold under \$200. Complete with Nikonos tray and "EO" coil cord. 60° light, 300 flashes, 6-second recycle. Uses 2 "C" batteries. Light intensity equal to 100 watt/sec.

**CENTRAL SPECIAL \$125.00**

Complete photo department. See catalog.



**CENTRAL SKINDIVERS** 2608G Merrick Rd. Bellmore, N.Y. 11710 (516) 826-8888  
160-09G Jamaica Ave. Jamaica, N.Y. 11432 (212) 739-5772

Mail Order Purchase of Life-Support apparatus must be accompanied by proof of certification.

## Lee Film at U/W '77

Underwater '77, Fall Edition, to be held Sept. 17, will premier Owen Lee's *The Endless Sea*. A full-length feature film, it highlights the works of LeRoy French, Teddy Tucker, Chuck Nicklin, Jerry Greenberg, Capt. George Bond, Jack McKenney, and many more with narration by James Mason.

Owen Lee has spent a great portion of his life in, on and under the sea. He speaks three languages, has written four books, lived on five continents and has sailed six of the seven seas. His first film, *Treasure Divers Of Vigo Bay* was made in Spain, when he was a member/diver of the famed Potter expedition. It won him recognition by Jacques Cousteau who requested his participation as a member of the world-famous Calypso Diving Team. Following his association with Cousteau, Owen Lee joined the Smithsonian Institution Underwater Archaeological Expedition and worked the Spanish galleon wrecks off the Florida coast.

Also on the program will be a new film by Fred Calhoun, *Underwater Safari*, featuring the blue water wonder of the Andros Bahamas Barrier Reef. Rounding out the show will be the favorite slide gallery — underwater adventure and beauty in stop-action.

Tickets are \$4 each and may be acquired at John Hancock Hall during the day, in advance, or on the night of the performance, or by writing to Fred Calhoun, P.O. Box 291, Back Bay Annex, Boston, Mass. 02117 — make checks payable to NAUI. The show begins at 8:00 p.m.

## \$1000 Commercial Diver Scholarship

The North Atlantic Branch of NAUI is the recipient of a \$1,000 Commercial Diver Scholarship which will be awarded annually at NAUI's Underwater Symposium and Film Review in Boston, Mass. The scholarship is sponsored by Undersea Systems of Bay Shore, N.Y.

In establishing this scholarship, Robert Shourot, president of Undersea Systems, commented that, "as underwater contractors, we have been increasingly aware of the shortage of trained and skilled divers, especially in light of the growing offshore industry — increased oil exploration, power generation, and the like. Our industry needs more professional divers."

The Commercial Diver Scholarship will be awarded to a diver who wishes to enroll in the Coastal Diving Academy, Bay Shore, N.Y. Candidates must be prepared to prove financial need. For further information and application blanks, contact: NAUI Scholarship, c/o Robert R. Erickson, 40 Cornell Street, Staten Island, New York 10302.





# When you work harder, so does our new regulator.

Our new MR12-II single hose regulator helps you breathe easier when you have to work harder.

The reason is a new second stage design that requires less energy to operate at higher flow rates.

An exclusive by-pass tube directs air into the mouthpiece, creating a vortex. The low pressure core of the vortex assists breathing by pulling the diaphragm down.

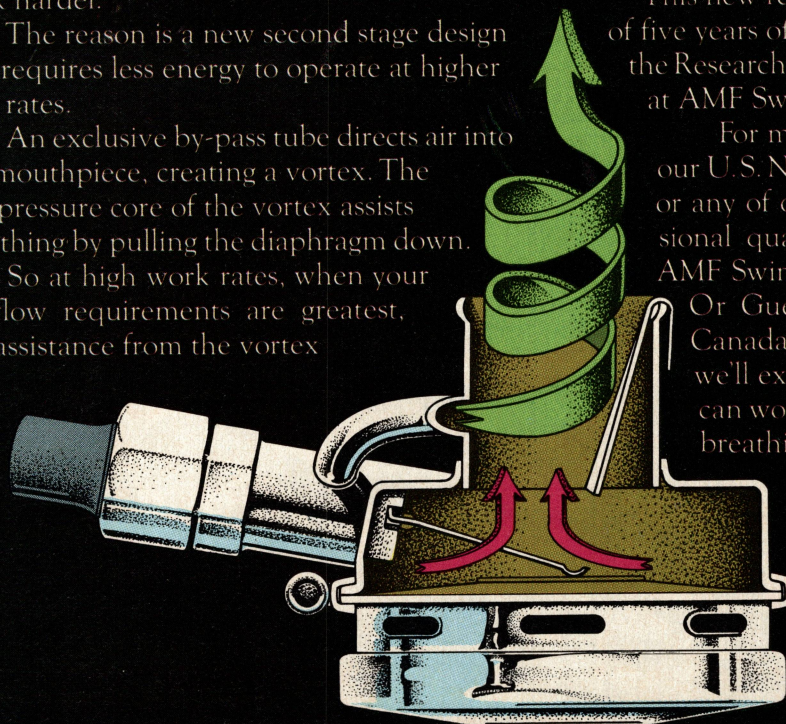
So at high work rates, when your air flow requirements are greatest, the assistance from the vortex

is at its maximum, allowing you to continue to breathe effortlessly.

This new regulator concept is the result of five years of development and testing in the Research and Development Laboratory at AMF Swimaster.

For more details on the MR12-II, our U.S. Navy approved MR12 regulator, or any of our complete line of professional quality scuba products, write AMF Swimaster, Santa Ana, CA 92704.

Or Guelph, Ontario, Canada N1H6N8. And we'll explain how you can work harder without breathing harder.



**AMF Swimaster MR12-II**

Patent Pending





# Suit Yourself In The Finest

From the Azores to the Arctic, U. S. Divers' wet and dry suits offer warmth, comfort, and durability second to none. Sizes and styles to fit everyone's needs.

## OWNER BENEFITS

- U. S. DIVERS' EXCLUSIVE CONSUMER PROTECTION PLAN.
- One Year Limited Warranty.
- Contoured body-panels and custom tailoring of patterns for best fit.
- Individually handcrafted by skilled operators insuring a long lasting suit.
- Only top quality Kirkhill material made in USA is used.
- Swimmers knee design on all suits allows maximum leg movement.
- Special two-way stretch textured and nylon two material.
- All seams are lock stitched after gluing for strength and warmth.
- Special sewing machines allow us to make all seams blind stitched. Needles do not penetrate both sides of material which would allow water transfer.
- Heavy duty finest quality nickel silver zippers and stainless steel twist locks.
- Beavertails offered with twist-lock fasteners or adjustable non-slip Velcro fasteners.
- High collars keep water out—warmth in.

Contact your local Aqua-Lung® Dealer for information. Send \$1.50 for the new 1977 catalog. U. S. Divers Co., 3323 West Warner Ave., Santa Ana, Calif. 92702



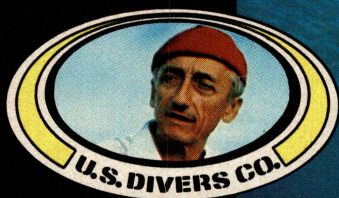
Capri

Super Sport





Jacques-Yves Cousteau  
Chairman of the Board



Kirby's  
RUBBER

NeoFlex NF12



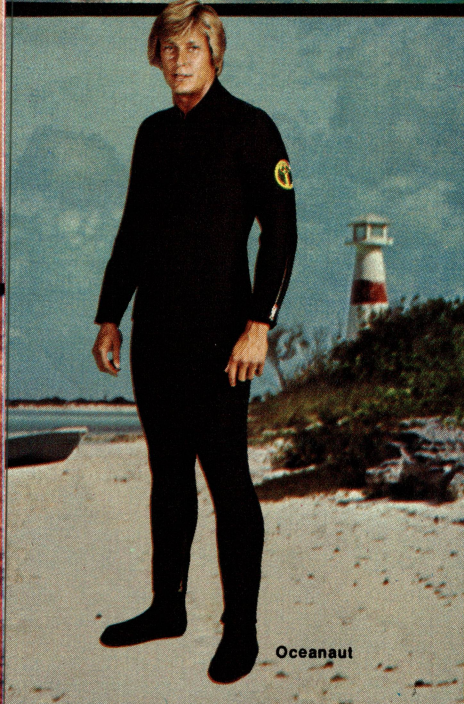
Sea Diver



Custom Suit



Divemaster



Oceanaut

**U.S. DIVERS CO.**



A SUBSIDIARY OF LIQUID AIR CORP. OF NORTH AMERICA

3323 WEST WARNER AVENUE • SANTA ANA, CALIFORNIA 92702 • TELEPHONE: (714) 540-8010



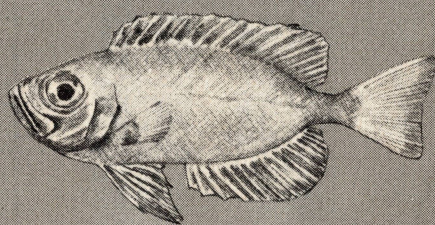




## The Bigeye

(*Priacanthus arenatus*)

**B**ig-eye, glass-eye, blear-eye — these are the various descriptive, common names that have been given to the brightly-colored fish that is now most often referred to as the bigeye. Catalufa is another common tag for the fish, sometimes used for the whole family, and comes from the Spanish word denoting a highly colored material of which carpets are made. If the name catalufa is used in regard to fishes, it generally refers to the one species of bigeye, *Priacanthus arenatus*. □ While many fishes that are nocturnal feeders have big eyes, the Priacanthidae family of fishes seem exceptional in this regard. Their extremely large eyes have a golden glint and a peculiar way of reflecting bright aquarium lights upward. A former director of the New York Aquarium once commented about the fish that, "if viewed from above, especially in slightly turbid water, shafts of light strike upward to the surface like the beams of miniature searchlights." □ The large eyes and red, crimson coloration are two physical characteristics shared by several species of nocturnally active fishes, including the squirrelfishes (holocentridae), sweepers (pempheridae) and cardinalfishes (apogonidae). By day, all of these hide deep underneath ledges, in burrows or holes in the reef, remaining in a state of sleepy suspension; during this time they are easily captured. At night, they become active, venturing out of their hiding places to feed, moving in small schools



over the reef. The bigeyes are carnivores, eating fishes and fish larvae for the most part, followed by shrimps, polychaetes, crabs, cephalopods, stomatopods (Randall). □ *P. arenatus* is a deep-water fish, most often found in depths of 50 feet or more. Ichthyologists James Bohlke and Charles Chaplin have recorded them in the west Atlantic from New England and Bermuda to Argentina, including the Gulf of Mexico. The young, larval-stage bigeyes have been known to struggle to Cape Cod (Ray/Ciampi). In the adult phase (maximum 14 inches) the bigeye is a brilliant

red or crimson, sometimes with silvery shadings on the lower parts of the head and belly. The tip of the caudal and anal fins are dusky to black, and the lower jaw is underslung. The Priacanthidae family is ichthyologically characterized by an inner ventral ray that is connected to the abdomen by a broad mem-

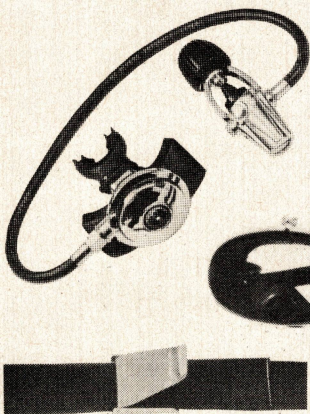
brane. The two major species of *Priacanthus* found in the Caribbean are *P. arenatus* and *P. cruentatus* (the glasseye snapper). *P. arenatus* is the bigger fish (by about four inches), and is not so changeable; *P. cruentatus* often has silvery half bars. *P. cruentatus* also has a strong spine from the preopercle, which is absent in *P. arenatus*. Both are secretive, and fairly common, *P. arenatus* in deep water, *P. cruentatus* in shallow. Both often mingle with their relatives — the sweepers, squirrelfishes, and cardinalfishes. »

*Photo By Fred McConnaughey - Text By Hillary Hauser*

The photo was taken in 25 feet of water in Pennekamp Park, Florida. McConnaughey used a Nikon F2 with a 55 mm macro lens in an Ikelite housing and a Honeywell 782 strobe. Shot at f16, 16 inches from subject.



# New England Divers Special Offer for August



- ★ Textured Wet Suit 1/4 Inch, Male or Female Non-Custom. Send Height, Weight, Chest & Hip Measurements. No. KH103 ..... \$65.00
- ★ USD Rocket Fins. No. 6211-00 ..... \$16.00
- ★ USD Snork-I Snorkel. No. 7323-00 ..... \$5.00
- ★ USD Pacifica I Mask. No. 5050 ..... \$12.00
- ★ NED Quick Flip Weight Belt. No. C41 . . . \$3.95
- ★ USD Aquarius Regulator. No. 1086-00 . \$65.00
- ★ US Nemrod Divers Lamp. No. 6959 . . . \$26.95

OWN IT ALL FOR ONLY \$193.90\*  
OR....any item at its stated price\*

\*Shipping charges are additional.

## EAST COAST STORES:

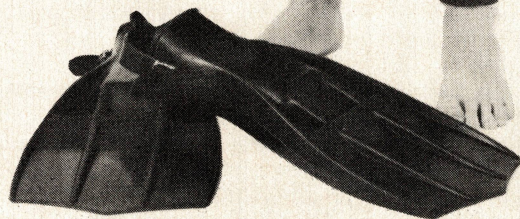
Tozer Road  
Beverly, Mass. 01915  
(617) 922-6951  
  
(Franchise Store)  
236 Wood Road  
Braintree, Mass. 02184  
(617) 848-4990  
  
2945 N.E. Second Ave.  
Miami, Florida 33147  
(305) 667-4622  
  
9820 So. Dixie Highway  
Kendall, Florida 33156  
(305) 667-4622

## WEST COAST STORES:

11009 First Ave. South  
Seattle, Washington 98168  
(206) 246-8156  
  
2507 South 252nd Street  
Kent, Washington 98031  
(206) 246-3337  
  
11830 W. Pico Blvd.  
W. Los Angeles, CA 90064  
(213) 477-5021  
  
3860 Rosecrans Street  
San Diego, California 92110  
(714) 298-0531  
  
8363 Center Drive  
La Mesa, California 92041  
(714) 462-4570

## NATIONAL MAIL ORDER:

Mail Order Warehouse  
Tozer Rd., Beverly, MA 01915  
(617) 922-6970



1977 Catalog & Dealer Price Now Available  
Sport, Military and Commercial Diving Equipment  
Send \$1.00 Now, To:

## NEW ENGLAND DIVERS, INC.

107 TOZER ROAD, BEVERLY, MASS. 01915  
Telephone (617) 922-6951

Mail Order Purchase of Life Support Apparatus  
must be accompanied by proof of Certification.

## IQ9 in Miami

The Ninth International Conference on Underwater Education, IQ9, will be held September 29 - October 2, in Miami Beach, Florida.

The Americana Hotel will host this weekend of communication for divers, instructors, manufacturers and retailers. Twelve hundred attendees are expected.

Events are scheduled throughout the conference to offer a wide variety from technical sessions to debates to wine and cheese socials. Most of the time, there will be at least two events in progress.

Over 60 papers have been submitted. Only the best 30 will be presented at IQ9. This assures a wide variety of knowledgeable speakers with the newest information about the sport. *The Proceedings*, the official printing of the authors' papers, will be available at the conference. It may be purchased in advance at a substantial savings as a part of the conference registration package.

Fifty exhibit spaces will be filled with the latest dive equipment, services, travel locations and packages. Many exhibitors have donated trips and equipment for drawings. Attendees will sign up at the individual booths for these drawings.

Manufacturers will give demonstrations of their new and advanced gear in the Americana pool. Come to IQ9 and try gear in the water - not on the shelf.

Two socials are planned for IQ9. Friday evening there will be one in the exhibits area. Two drink tickets are included in the registration packages. Saturday, at the close of the technical sessions, there will be a wine and cheese social. During this, Mike Kevorkian will present twelve NAUI Service Awards, two NOGI Awards and the Greenstone Diving Safety Award. Drink tickets and admission to the wine and cheese social are included in the complete registration package. Additional tickets may also be purchased.

Brand new at IQ9 are the fiery debates of '77. For the first time in scuba diving history, key industry leaders have agreed to stand openly and publicly debate the hot issues of the day. At least three separate debates will be held. Over 40 industry leaders have agreed to debate the issues.

Three areas of competition will culminate during IQ9 black and white prints suitable for the cover of *NAUI News*; artistic slide shows illustrating the beauty and excitement of diving; and educational slide shows teaching a concept from the basic or sport diver courses. Cash prizes up to \$200 will be awarded. IQ9 attendees will judge the presentations and vote to select the winners. Complete details and entry information are available from IQ9 Photo Competition, P.O. Box 630, Colton, Calif. 92324.

Does your wallet seem a little thin to even consider going to Miami Beach? Here are some budget stretching hints. Register for the conference early and save money on the registration fee. Car pool to Miami (saves money and natural re-



resources) and park your RV, van or tent at a nearby campground. The IQ9 has located several campgrounds with hot showers, sewer hook-ups and laundry facilities only 30 minutes from the hotel. Complete camping information is available upon request from IQ9 Camping, P.O. Box 630, Colton, CA 92324. Complete restaurant details will be in the IQ9 Program Book at the conference.

Two package registrations are available. Additional tickets may also be purchased separately.

Complete Package: Conference registration for three days: admittance to exhibits, admittance to all technical sessions and debates, Friday exhibit area social including two drink tickets, admittance to



all pool sessions, Saturday awards wine and cheese social including two drink tickets, one copy of *The Proceedings* and *The Addendum*, eligibility for drawings. Before Sept. 8, \$50; after Sept. 8, \$60.

Basic Package: Conference registration for three days: admittance to exhibits, admittance to all technical sessions and debates, Friday exhibit area social including two drink tickets and admittance to pool sessions, eligibility for drawings. Before Sept. 8, \$35; after Sept. 8, \$40. One Day Ticket: One day tickets may be purchased for Friday, Saturday or Sunday. This will admit the holder to technical sessions, debates or exhibits on that one day.

All requests for tickets and complete brochures should be sent to IQ9, P.O. Box 630, Colton, CA 92324.

## DEMA Trade Show

The Diving Equipment Manufacturers Association will hold its 1978 Trade Show at the American Hotel in Miami Beach. The largest show of its kind in the world will be open to the trade on January 14-17 from 9 a.m. to 6 p.m. Manufacturers can obtain booth registration forms and details of the show by writing Jim Hall, DEMA general manager, 2064 N. Bush St., Santa Ana, Calif. 92706.

# SUPREME DIVERS

<p><b>OCTOPUS</b>, the last word in safety... light weight, high quality, downstream 2nd stage w/hose at a price that will fit any budget... \$29.95</p>	<p><b>CYLINDER SHOT-BLASTING SYSTEMS</b> Supreme Divers are now manufacturing, steel shot-blasting systems that get all the rust out, and leave the tank interior like new. <b>MAKES TUMBLING A WORTHLESS WAIST OF TIME</b>... Prices starting at \$5000.00</p>	<p><b>THE SUPREME PURE AIR SYSTEM 6000 or 3500 P.S.I.</b>, 20 S.C.F.M. of pure dry, fresh air that meets OSHA, CGA, NFPA, and conforms to C.S.A. A180-1973, purity of compressed air for breathing purposes, standards, with an operating cost of less than .002 cents per S.C.F. <b>ELIMINATES:</b> * Carbon monoxide * Other noxious gases * Oil vapor and hydrocarbons to 1 P.P.M. * excess moisture * unpleasant odors... \$300.00 and up.</p>
<p><b>HYDROSTATIC TESTING SYSTEMS</b> From Supreme in a full range of sizes, will test anything from forty foot trailer tubes, to pony tanks, and cut operation time to a fraction of the hours your spending now... Complete systems start at \$2500.00</p>	<p><b>1/4 NYLON LINED SUIT</b> A ridiculous price for a Super Sport Diving Suit. * all stitched seams * 1 zipper * 1 year guarantee * Custom contoured * In men stock sizes only XS, S, M, L, XL. If you are not sure of your size, send height, weight, chest, waist and hip measurements... \$79.95. Available only in Canada.</p>	<p><b>RIGHT</b> — Name Brand Galv. 71.2 C.F. Steel Tank w/J Valve, U.S. Divers Mariner Pac &amp; Boot \$139.95, Plus Shipping \$5.00 <b>LEFT</b> — U.S.D. 80 C.F. Professional Aluminum Tank w/J Valve, U.S. Divers Mariner Pac &amp; Boot \$184.95, Plus Shipping \$5.00 <b>PONY BOTTLE</b> * Now improved, * 1/2" o-ring neck and valve * quick release harness * High resistance finish * Name brand downstream single hose regulator 12 C.F. 4" Dia. X 22" ... \$74.95... W/regulator... \$119.95 20 C.F. 4" Dia. X 27" ... \$84.95... W/regulator... \$129.95</p>
<p><b>HELMET</b> Miniature 1/8 scale model of world renowned U.S. Navy M.K. V diving helmet, ideal for desk, den, or mantel... \$44.95</p>	<p><b>SEAMCO 1/2" J valve:</b> \$12.00 <b>SEAMCO 3/4" K valve:</b> \$8.00 Minimum Orders of 20 * we stock a complete inventory of parts for all current J. and K. type scuba valves... prices on request... * Special Quantity discounts</p>	<p><b>PURUS</b> Gas powered compressor. Powered by a Briggs and Stratton engine, all ball bearings and needle bearing through out. Mounted on a lightweight channel frame, complete with filler hose and filters, for charging 3000 P.S.I. Scuba Tanks * Also available in elec. W/ 2H.P. 110 volt motor</p> <p>* \$1375.00 U.S. * \$1649.00 Canadian</p>
<p><b>DACOR 400</b> Reg &amp; Tag Gauge reg. &amp; gauge... \$164.95 reg. only... \$129.95 plus shipping \$3.00</p>		

**WANT TO OPERATE YOUR OWN SUPREME DIVERS OR PARTNERSHIP? WRITE FOR DETAILS**

**IN CANADA**

168-170 KING ST. EAST, 416-364-2341 TORONTO, ONTARIO M5C 1B1  
4164 KINGSTON ROAD, 416-282-6917 SCARBOROUGH, ONTARIO M1E 2M4  
20-25 DUNDAS ST. EAST, MISSISSAUGA, ONT. 416-624-2942  
5300 YONGE ST., WILLOWDALE, ONTARIO 416-225-1542

**IN U.S.A.**

**SUPREME DIVERS FLORIDA,**  
3595 N.W. 54th ST. MIAMI, FLORIDA, 33142 / 305-634-9623

For Canada's largest and most informative equipment catalogue (142 pages), enclose \$1.50, refundable with first purchase.  
Mail order purchase of Life-Support apparatus must be accompanied by proof of certification.



# CONNECTICUT LAKES

hundreds of lakes offer unlimited adventure

By Peter Aster

The turbulent Atlantic — more often than not — lets all who are associated with her know she is still mistress. When this occurs, divers in Connecticut are not obligated to pack it in and call it a day.

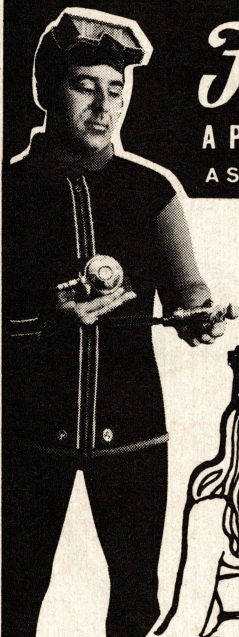
This is a state dotted with many lakes, and while some are man-made, most are natural and have been used for food, transportation and recreation since colonial days. Lakes and rivers are also stocked with trout, bass and salmon by the state's DEP. There is much for the dedicated

BE A  
CERTIFIED... **DIVING INSTRUCTOR**  
**EQUIPMENT REPAIR SPECIALIST**

*Florida P.A.D.I. College*

A PADI SANCTIONED INTERNATIONAL TRAINING FACILITY

A SUBSIDIARY OF *Underwater Educators, Inc.*



Here is your opportunity to turn the exciting sport of skin diving into a rewarding career. Qualified people are needed in diving instruction, dive shop management and sales. The ten week resident training program at Florida P.A.D.I. College offers the skills, advanced techniques and thorough knowledge of equipment and its maintenance to qualify you for these challenging positions. Train in Florida with warm water and good weather — act NOW! **APPROVED FOR VETERANS TRAINING.**

**Florida P.A.D.I. College** 4593 ST. JOHNS AVENUE SD 577  
JACKSONVILLE, FL 32210 904/388-4689

Check course you are interested in:

- 10 WEEK FLORIDA  
P.A.D.I. COLLEGE COURSE:**  
☐ Oct. 3, 1977—Dec. 9, 1977  
**7 DAY INSTRUCTOR COURSE:**  
☐ Sept. 12, 1977—Sept. 18, 1977  
☐ Sept. 19, 1977—Sept. 25, 1977  
☐ Dec. 12, 1977—Dec. 18, 1977  
**4 DAY EQUIPMENT REPAIR COURSE:**  
☐ Sept. 26, 1977—Sept. 29, 1977  
☐ Dec. 26, 1977—Dec. 29, 1977

Enclosed is \$1.00 for catalog

**APPROVED FOR VETERANS TRAINING**

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_  
STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
PHONE \_\_\_\_\_

Licensed by the State Board of Independent  
Post Secondary Vocational Technical, Trade  
and Business Schools. Certificate Number 166

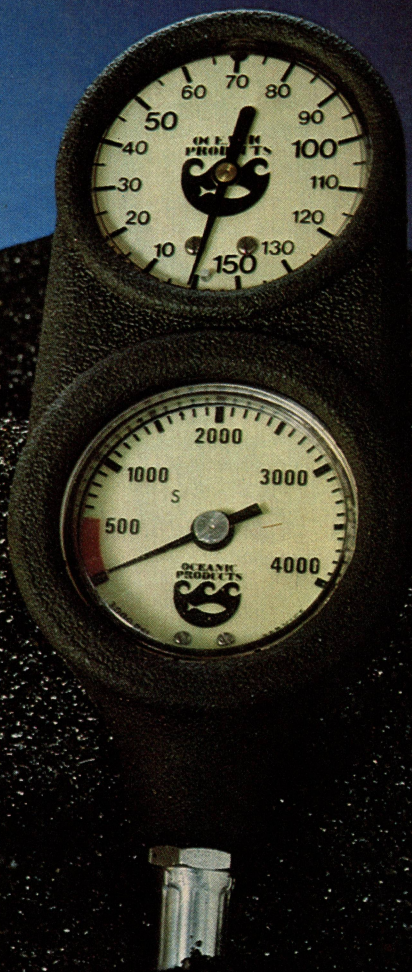
**Your future starts today at Florida P.A.D.I. College**



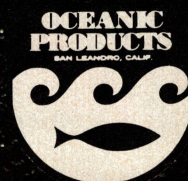
# OCEANIC'S GROWING GAUGES

Oceanic's experience in producing exotic 16 mm motion picture cameras and fully automatic exposure control strobes for the uncompromising diver, is the technological soil in which they nurtured the growth of a line of precision diving instruments with the focus on the elegant simplicity of capsules and covers.

Just three capsules and three covers, means a diver can build a pressure or depth gauge into the ultimate combo at the unmatched price of \$74.50.



**OCEANIC** 814 Castro St. • San Leandro, Ca. 94577  
(415) 483-1150





you're  
**King**  
when you wear

The  
**Royal Robes**  
of the deep

by  
**IMPERIAL**  
**THE**  
**BUBBLE SUIT**

The Bubble Suit has proven to be an excellent choice for cold water or extended diving.

An inflatable system that gives you the ultimate in comfort, control and ease in the water. This suit is actually a dry suit designed to be inflated for buoyancy control when at depths or safety inflation on the surface. An inflator on the chest area allows you to inflate or deflate as you desire. Back entry for ease of entry through a waterproof zipper across the shoulders.

Custom made from nylon two-side material, with your choice of Turtle or Glowflex, (as shown) 1/4 or 3/16 inch material.

**WARM AND TOUGH**

When you have  
the best  
it's

**IMPERIAL**

New and colorful, the 1977 Catalog is now available. Send one dollar for your copy.



**IMPERIAL**

Manufacturing Co.  
P.O. Box 4119  
Bremerton, WA 98310  
(206) 674-2316

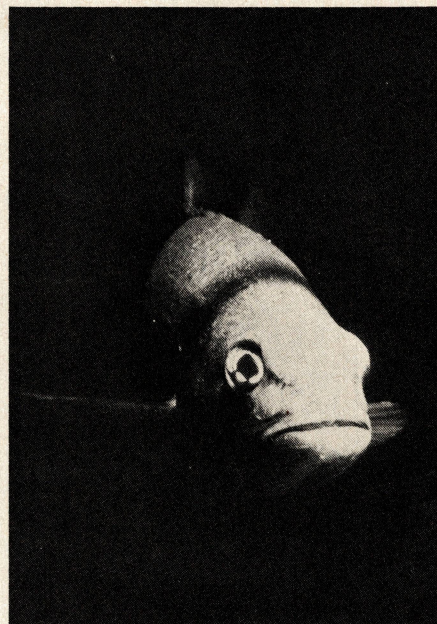
## Connecticut Lakes

diver to collect, photograph and explore.

Access to most lakes can be gained through state-owned boat launch areas and the state asks only two things in return from divers: (1) Fly a diver's flag and (2) No spearfishing.

While all lakes have something to offer the diver, a small sample of the more popular lakes is in order.

**BASHAN LAKE**—A spring-fed lake located in historic East Haddam, Bashan Lake is probably one of the most frequently-dived lakes in the central part of the state. Visibility can range from 7 to 25 feet, depending on the time of the year.



*Visibility in Connecticut's spring-fed lakes is good and photographic subjects—such as this curious fish—are abundant.*

The average depth is about 15 feet ranging down to 60 feet. Aquatic life here is very abundant. Divers can see small and largemouth bass, yellow perch, sunfish, pickerel, turtles and catfish as long as a man's arm. Hand feeding them freshwater mussels, found in excess on the bottom, is a favorite pastime of many divers. Night diving here is also rewarding. The fish are found sitting on the bottom in a trance-like state and can be approached and sometimes petted. The photographic possibilities are endless.

**WEST HILL POND**—Another excellent lake for observing aquatic life, West Hill Pond is found in northwest Connecticut in the town of Winstead. Visibility here is also between 7 to 25 feet and the average depth is about 30 feet. This lake is best dived by boat but entry through the boat launch is fine.

**CANDLEWOOD LAKE**—Located in the extreme western portion of the state, Candlewood Lake boasts 5,420 acres of water. Several boat launch areas



make entering the lake easy. A unique attraction to this lake is an old town underneath its waters. Evacuated and submerged while the lake was under construction, the town is worth exploring.

**SQUANTZ POND**—Adjacent to Candlewood Lake, Squantz Pond also offers a unique dive experience. In the middle of it is a wreck of an old WW II plane. A very interesting dive.

**UNCAS LAKE**—Located in eastern Connecticut in the Nehantic State Forest in Hamburg, this lake offers much for the old bottle buff. Visibility here is not the greatest but some excellent bottle finds have been reported.

When diving in Connecticut, as in any northern state, the diver should consider several environmental factors. During the summer months, surface water can warm to about 80°F. If, however, the diver plans to penetrate more than 15 to 20 feet, he will surely hit the summer thermocline. Temperatures below the thermocline are almost a constant 40 to 45°F and adequate thermal protection is needed. A full 3/16 or 1/4 inch wet suit is mandatory while dry suits make things more comfortable for long dives. Water temperatures stay high until October and then drop. January through early March, most lakes are covered with ice. Ice diving should be attempted only by experienced divers and only after certain safety measures have been taken. The water stays very cold through early May and then the warming cycle starts again. When planning a dive, take all factors into consideration and then dive your plan.

The dive shops listed are full service shops and air stations. The owners and their associates are more than helpful when providing information for visiting divers and since they have been diving here for years, are totally familiar with dive procedures for each area.

Connecticut is dotted with hundreds of lakes to see and explore. If old bottles and artifacts are your specialty, look for old piers, docks and dams. If photography is your cup of tea, dive spring-fed lakes for good visibility. If exploring is your bag, then just dive, dive, dive!

#### DIVE SHOPS

Sea Wolf Diver's Supply  
Town St., Route 82  
East Haddam, Conn. 06423  
873-8135

Innerspace Diving Supply Co., Inc.  
Rt. 6 & 44A Center St.  
Manchester, Conn. 06040  
646-2352

Will Jacobs Dive Shop  
1153 New Britain Ave.  
West Hartford, Conn. 06110  
232-8719

Tri-City Divers  
Rt. 30 Post Road Plaza  
Vernon, Conn. 06086  
872-6547



# CALL ISC FOR GREAT VALUES

**INSTANT SHIPPING THROUGHOUT U.S.A.**

**TOLL FREE**

**PAY BY PHONE WITH MASTERCHARGE, BANKAMERICARD, OR VISA CARD**

**800**

**323-7791**

**10 A.M. - 5 P.M. CST**

**NAME BRANDS**

**COMPLETE CATALOG \$1.00**

**FIRST QUALITY**

**PHONE US FOR A QUOTATION ON THE EQUIPMENT OF YOUR CHOICE OR TAKE ADVANTAGE OF THESE SPECIAL VALUES.**

#### REGULATORS

U.S. DIVERS CALYPSO IV \$108.88  
U.S. DIVERS CONSELF XII \$89.50  
SPORTWAYS W-200 \$93.95  
POSEIDON 300 with SUBMERSIBLE PRESSURE GAUGE \$166.00

#### TANKS

U.S. DIVERS ALUMINUM 80J \$129.50  
U.S. DIVERS ALUMINUM 72J \$109.00  
U.S. DIVERS STEEL 72J \$89.00  
OTHER STEEL TANKS \$75-\$99.00

#### DIVE SUITS—A11 1/4"

PARKWAY NYLON II \$105.00  
U.S. DIVERS NYLON II FARMER \$119.95  
U.S. DIVERS TEX-SKIN FARMER \$74.50  
PARKWAY NYLON II BRUTE SUIT \$165.00  
CUSTOM SUITS ON SALE NOW!

#### BUOYANCY COMPENSATORS

U.S. DIVERS BCI \$83.30, BCII \$108.50  
U.S. DIVERS CALYPSO COMPENSATOR \$115.50  
SPORTWAYS BACK PACK BC SYSTEM \$113.50  
SEAQUEST—SEATEC—MANY OTHERS IN STOCK

Prices may vary in ISC store locations

#### PACKAGE DEALS

U.S. DIVERS 80J TANK CALYPSO IV REGULATOR MARINER BACK PACK \$259.90  
SPORTWAYS W-200 REGULATOR  
U.S. DIVERS 80J TANK MARINER BACK PACK \$239.00  
SWIMMASTER MR12 II REGULATOR  
U.S. DIVERS 80J TANK MARINER BACK PACK \$252.00  
U.S. DIVERS AQUARIUS REGULATOR  
U.S. DIVERS 80J TANK MARINER BACK PACK \$209.90  
ADD A SUBMERSIBLE PRESSURE GAUGE FOR ONLY \$35.00, NAME BRAND OCTOPUS UNIT FOR \$45.00  
U.S. DIVERS CONSELF XII  
U.S. DIVERS 80K TANK CALYPSO COMPENSATOR SYSTEM  
PRO DIVE I PRESSURE GAUGE \$359.00  
\$259.00 WITHOUT CALYPSO COMPENSATOR



**WANT TO OPERATE YOUR OWN INTERNATIONAL SCUBA CENTER? WRITE FOR DETAILS**



**SEND ALL ORDERS AND CATALOG REQUEST TO:**

**ISC INC.  
MAIL ORDER DIVISION  
2 N. ELMHURST RD.  
PROSPECT HTS., IL. 60070  
312/255-0155**

Mail order purchase of Life Support apparatus must be accompanied by proof of certification.

## The World's finest SPEARGUNS...



**4-Models Available:**

- Single
- Double
- Quad (shown)
- Double Magnum

Plus complete accessories.

Write for system catalog \$1.00, credited to 1st order

**SMG Seafari Marketing • P.O. Box 806, Waianae, Hawaii 96792**

**The S.M.G.**



# The Shark Caves Of Isla Mujeres

home of the

By Jesse Cancelmo

Isla Mujeres is a perfect escapist's hideaway conveniently located in the Mexican Caribbean just six miles northeast of the tiny Yucatan mainland town of Puerto Juarez. It is but five and a half miles long and a mile wide and, being just off the beaten tourist track, often goes unnoticed. In Spanish, Isla Mujeres means "the island of women." But our lure there was not women, but sharks — the "sleeping sharks of the Yucatan!"

Juan Silverio, a young Cuban-born artisan and diver, took us to Mujeres. Arrangements had been made with Gustavo Rodriguez, owner of the local dive shop, to visit and dive the unique and phenomenal underwater shark caves.

Our early morning arrival via the mainland ferry was frustrated by bleak and dismal weather conditions. Strong winds and unseasonably heavy rain completely flooded the streets of the small island village and drenched our hope for diving the caves that day. The adverse conditions quickly disappeared, for the following morning brought sunshine, clear skies, and smooth seas. It also brought definite prospects for diving and photographing the famed "sleeping sharks."

June proved to be a good month for our venture to Isla Mujeres. Gustavo informed us that the sharks are regularly seen in the caves throughout spring and early summer. For an unknown reason, later in the year the sharks are seldom found lying in the caves. One group of scientists who came to observe and study them had to persevere for more than two months before seeing a shark.

A 20 foot Yucatecan fishing boat was hired, all our dive gear was checked and stowed aboard, cameras were loaded and ready, and we anxiously awaited our guide, Carlos Garcia. Amiably known as "Valvula" (the valve), Garcia is the local fisherman and diver who discovered these extraordinary underwater caverns more than six years ago. It was he who later guided the scientists and shark researchers to the caves.

Valvula directed the helmsman to a northeasterly direction. We were headed for the caves of La Punta (the point). Valvula was confident we would see sharks. Our position was determined and minutes later the anchor was dropped.

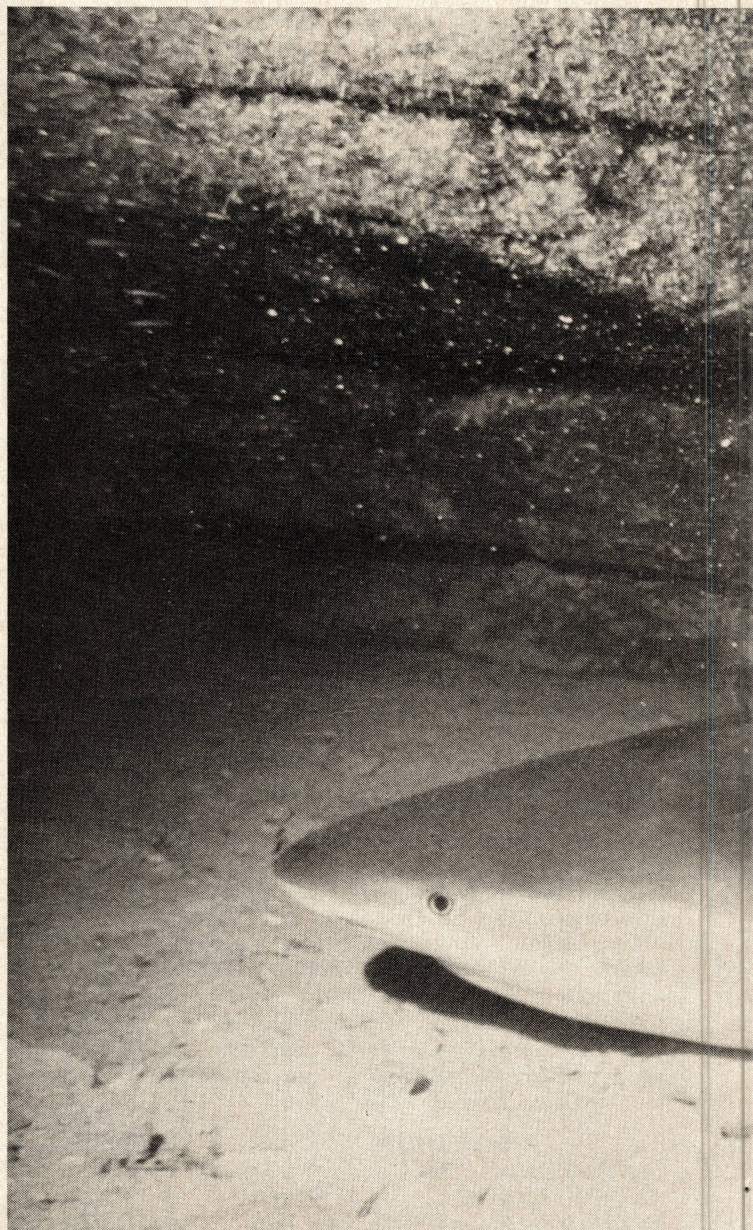
Poncho, Juan and Evaristo, my underwater models, were first to reach the sandy bottom 65 feet down. A giant school of yellow porkfish, headed by a lone three-foot barracuda, greeted me as I swam down the anchor toward the other divers. By the time I reached them, their hands were wildly pantomiming "sharks!" Seconds before, the two had witnessed an eight-foot requiem shark glide past them, lazily turn, and drift to a landing beneath a coral ledge only yards away.

Together, we carefully approached the cave opening. Visibility was impaired by dense suspended particles and a strong bottom surge that carried a thick seaweed mat back and forth along the bottom. As we came near, the long streamlined form of a requiem shark appeared, and I immediately squeezed the camera control. We hesitated about eight feet away. The shark lay inside the cavern, motionless.

Calling these sharks "sleeping," is really a misnomer for they do not actually "go to sleep." This requiem was resting still, but we could see its gills rapidly pumping water and its eyes were open and focused on us.

As I moved through the cave opening and in closer to take more pictures, I wondered just when this sedated predator might decide to leave the cave. The requiem remained still.

Backing away, we decided to swim farther along the reef and inspect the other cave openings. We found no other



photography by Author

sharks. Backtracking and returning to the first cave, we found the resting requiem as we had left it. Since the creature was not disturbed in the least by the intensity of my strobe light, I fired my remaining frames on the contented shark.

The following morning we visited another of Valvula's special caves called El Puente (the bridge). As Juan and I were gearing up to make this dive, Valvula informed us that he too would dive and wanted me to photograph him petting a sleeping shark. He informed us that at one time he had witnessed as many as four requiems there wedged together.

We followed Valvula between the reefs, passing several cave openings and soon came upon a lone sleeper lying inside



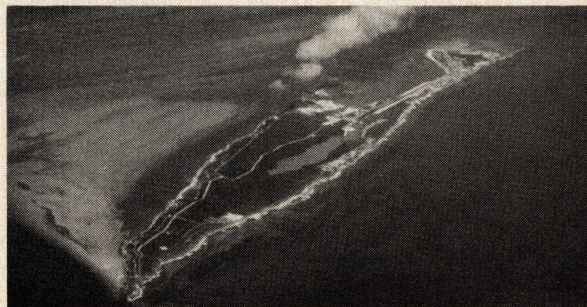
# famous sleeping sharks of the Yucatan



*Isla Mujeres is in the Mexican Caribbean six miles northeast of the Yucatan mainland. Trips to the caves, where one can find "sleeping" sharks, can be arranged through the local dive shop. Above: At La Punta, Juan strokes the body of a requiem shark.*

an opening only yards away from the bridge. This requiem, about four feet long, was in a much better position for photographing than the first. I easily moved in front, fired several frames from outside the cave, and then slowly moved in through the opening to within about three feet of the shark.

*(Continued on Page 62)*





# THE Pelican Float

## mark it now find it later

By Jim Hall

It's the little things that count — an extra fin strap, a replacement O-ring, a small wrench to tighten a loose fitting. Dependable, practical items that are easily taken for granted until they are most needed. The Pelican Float is just such an item — a simple, functional accessory with a multitude of uses. Once you have one, you'll wonder how you ever got along without it.

We can't recall a dive where we haven't found something of interest to come back and see again with a full tank of air. Sometimes, as in the case of small anchors, that "something" has been valuable and is worth retrieving as a souvenir or for a little extra cash. Then of course, there is "Reserve's Law" which states that: The less air you have, the larger the number of lobsters you discover in the hole. If you have gone through the frustration of finding a "hot spot" near the end of a dive and changed your tank only to be unable to find it again, you know the need every diver has for a practical, portable float.

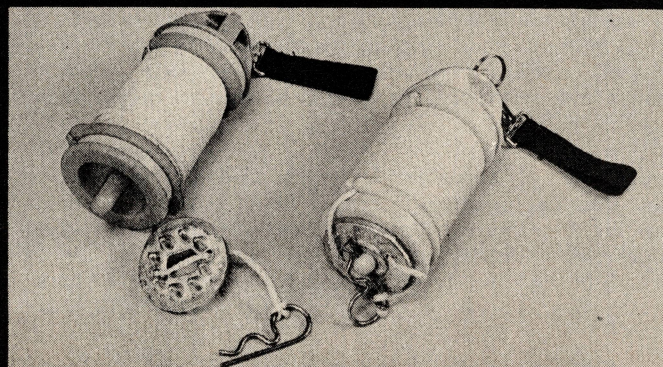
Such a frustration remedy is the Pelican Float. This marker-recovery system is a compact, bullet-shaped bundle of usefulness that measures eight inches in length by three inches in diameter. Available in bright yellow or highly visible orange, the Pelican Float has contrasting bands of reflective tape for night-time spotting on the surface. Weighing 1.25 pounds in your gear bag, the float is neutral in salt water and slightly negative in fresh water. Injection molded of tough plastic, the system is completely self-contained and equipped with its own built-in lead anchor with special non-drag feet.

Wrapped around the Pelican Float's central core is approximately 100 feet of brilliant yellow 250 lb. test polypropylene line. This floating plastic line will not get waterlogged and sink as nylon line will — an important safety factor in an emergency. The line terminates on a stainless steel pin that holds the anchor flush to the float body until it is deployed. The opposite end of the float is tapered and has a built-in ring and clip to attach it to your weight belt. This tapered body prevents snagging while the float is attached to a diver.

The self-contained design of the Pelican Float has many advantages over conventional floats. Because approximately one pound of buoyancy is built into it (when the anchor is removed), the expense and maintenance of CO<sub>2</sub> cartridges and their detonators has been eliminated. Most inflatable floats also have bags which tend to rot and tear under moderate abuse.

The Pelican Float's usefulness goes beyond diving and marking. If you are a boat owner and have gone through the agony of losing an anchor on a reef, you will appreciate the convenience of having a device on hand that marks the spot for later recovery. Fisherman friends would appreciate a float in their

*(Continued on Page 63)*



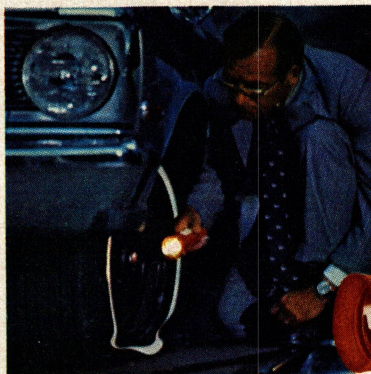
photograph by Paul Tzimoulis

photograph by Geri Murphy



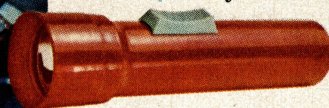
## Why nobody compares their batteries to our alkaline power system.

You've seen television commercials where somebody compares the longer-lasting power of their battery to ordinary batteries. But you've never seen a commercial where anybody says that their battery lasts longer than "Eveready" Alkaline Power Cells. Because for electronic flash, cassette recorders, calculators, smoke detectors, movie cameras—anything that really eats up energy—you can't buy a longer-lasting power system than "Eveready" Alkaline Power Cells.



## Will you have a flashlight handy when you need one?

Sure, you know where to look. Junior was using it last night to work on his car. Or did he borrow the flashlight Amy uses to read with under the covers after "lights out"? If your family is typical, the flashlight you may have to depend on in an emergency may not be where you think it is. Keep a spare in a safe place, like your glove compartment. The "Eveready" Economy Flashlight makes it easy, because it's priced right. Get one. You never know when you'll need it.



## You know our flashlight batteries. Get to know our watch batteries.

"Eveready" is the Number One brand name in flashlight batteries. Make it your Number One choice for watch batteries. You can depend on us for quality. Our watch batteries, for example, use a unique, patented Radial Seal\* construction which helps provide trouble-free battery performance in your watch. And that helps explain why most of the world's leading watch companies use watch batteries made by Union Carbide. Shouldn't you? \*U.S. Patent No. 3,069,489.



# Eveready wants you to know

UNION  
CARBIDE





# Inflatable Seamanship

By Adrian Vance

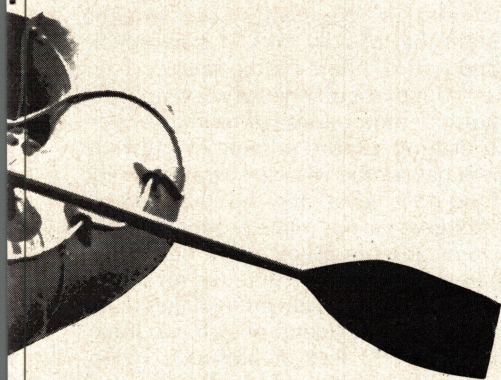
**T**he first light of a gray dawn was in the room. I entered and turned on the VHF radio. Everything was in the camper and we were ready to go, but still had to pick the destination. The coastal chart lay on the table where it had been left the night before. No decision had been possible then because the weather was unstable. The radio hissed at the silence and then, "This is Radio Weather, KWO 37. There are no small craft warnings from Point Conception to the Mexican Border and out 60 miles. Seas are four to six feet, swell direction is southerly and the swells will increase in the afternoon hours."

Our prime location was a south-facing cove and it would continue to be ravaged by heavy breakers the entire day. Not only would visibility be bad, but entry and exit would be difficult if not dangerous. We would have to go to a north-facing cove, perhaps on the backside of a point. We could launch our boat from a beach, pier or ramp. I scanned the coast for a distance of 250 miles knowing that we could be at any point in no more than two and one-half hours. No ordinary

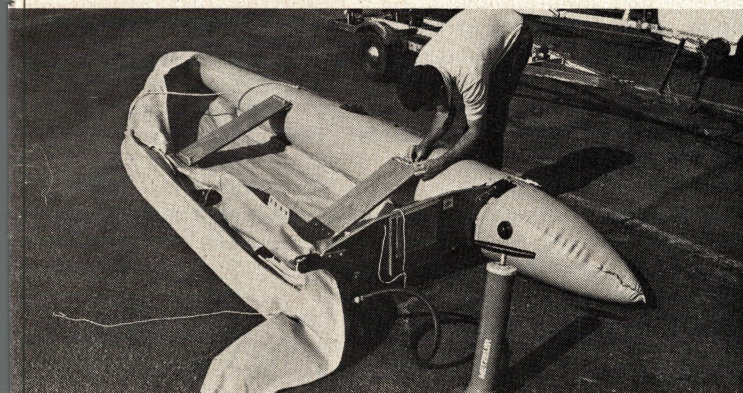
boat owner would have this much freedom in picking a dive site. Not only can we get to one quickly, but we can launch from anything but a cliff or rocks. Our boat has not only opened territory to us that most divers cannot reach, but it has taught us a lot about the growing art of inflatable seamanship.

There are several different kinds of inflatable boats and we first surveyed the market at a boat show in Los Angeles. After that we called on all of the local dealers and while much of what we heard in all places was propaganda, certain things began to fall into place. The first fact that we had to accept was that Hypalon® is the only material from which an inflatable dive boat should be made. The other, primarily vinyl materials, cost much less but are just not strong enough for work in the sea. Hypalon® boats cost twice what the vinyl boats do, but there just doesn't seem to be any reasonable alternative to this material. There are several lines of these boats and a wide range of prices within them. By shopping around it should be possible to find exactly what you want at a bearable price.





*Launching an inflatable boat requires caution and practice. Beach launches are best done with one man rowing through the surf zone during a lull in its activity. The second man assists in the take-off and then enters the water with fins, but no tank. The motor is covered throughout the launch to protect it from sand.*



photography by Author

Our criteria for selection finally narrowed down to adaptability to diving and maintenance requirements. Looking back, I know that color was at least subconsciously on my list and all of the Hypalon® boats we first saw were some grim shade of gray while the vinyl boats were brilliantly colored and the vinyl boat salesmen enjoyed presenting great bouquets of color samples with the flourish of a courtesan. By the time we had finished touring the show we had found two lines of Hypalon® boats that were some color other than gray, among them the Metzler, which was bright yellow.

The wooden floor, which is seen in both kinds of boats, is touted as a great improvement over earlier designs, which usually had a flat sheet of the rubberized fabric for a bottom. This floor does make it possible to stand up in an inflatable boat, but we concluded that it would add to our maintenance as we would be scuffing it with tanks, weights and gear. Another feature that would prove either meaningless or troublesome was the hood and windshield seen on many of

the new designs. This is nice if you want to stay dry under way, but we didn't feel they were necessary. And, the hood and windshield would take up space. We had decided to buy the smallest boat with the largest amount of usable space. Inasmuch as we intended to launch from remote beaches we didn't want to carry anything unnecessary.

We later discovered that one criterion that we should have had, and a feature that we were just lucky to get, was a wooden transom with two metal hook-eyes attached. The pier winch operators will not lift a boat unless two solid-looking hook-eyes are in wood and the front anchor hold has a loop or ring. We tie a bowline loop into our anchor rope and this seems to satisfy the windlass engineers.

Our experience has shown that two divers need a 12 to 14 foot boat to be comfortable. For a short haul, where tanks would either be strapped to the line running around the side or hauled in a small towed craft, four divers could be accommodated in this size boat, but they had better be experienced and friendly, as well as not take too much extra equipment, or things soon become hopelessly tangled and tempers short. Four people who are going to dive together regularly would be better off buying two small boats instead of one of the larger 18 to 20 foot inflatable crafts. The economics of these boats, and outboard motors are inverted. Generally we get more for less money per unit in larger sizes, but a large boat will cost twice as much per foot as a small one and you can buy two small motors for less than one twice the unit size. Also, beach entries and exits are easier in small craft and small deflated boats are easier to carry and store than large ones. Some paths to our beaches are steep going down and steeper coming up.

We settled on the Metzlar Juca model because it was the smallest and least expensive Hypalon® boat that would take care of our needs. It doesn't have a wooden floor or windshield-hood and the floor consists of a third inflated compartment of long tubes looking rather like an air mattress. The Metzlar boats are inflated to the highest pressure of all such boats, 4.25 psi, and this gives them the most rigid hull of any inflatable craft. This makes the boats more efficient for rowing or motoring, transferring a greater fraction of applied power to motion instead of undulating or deforming the craft. However, all of the inflatable boats on the market are high performers with small motors, or oars, because they are lightweight and incredibly buoyant. These boats barely touch the water fully loaded, tending to skitter on the surface — never bogging down and slogging through the sea in the manner of old fashioned row boats. This super-light feature does have one serious drawback, however, and that is that these boats tend to be relatively unstable with respect to direction. Running an inflatable boat under power is an experience rather like riding a bicycle, it needs constant correction.

Fully loaded our boat weighs 650 pounds, but its total buoyancy is a little over 4500 pounds. Thus, we have a safety factor of nearly seven to one. Each of the side tubes contains a little over 28 cu. ft. of air and the bottom holds about 14. The back compartment contains an additional cubic foot. Inasmuch as seven strokes of the high-volume, low-pressure pump supplied with the boat are needed to produce a cubic foot, each side tube needs about 200 strokes and the bottom about 100. On one occasion, just to see how quickly it could be done, I pumped up the entire boat in six minutes, and felt in need of medical attention thereafter. We have found a small fan-type electric pump, that will inflate the boat up to one psi and the hand pump is used to supply the final pressure. It would be possible to inflate the boat from a spare dive tank as the needed volume is 71 cu. ft. Several dive manufacturers have tire inflators that could be used for this purpose. In any case, the boat is not that much trouble to pump up.

From the load and buoyancy figures it is possible to calculate that the boat will only displace about two and one-half inches of seawater. It has to be motored with considerable anticipation and a fairly "laid-back" attitude as it normally





bumps into everything near it. In most cases you can laugh it off, as you are usually the one doing the bouncing, but if you have to transfer something from one inflatable boat to another don't count on getting it done quickly.

The best way to accomplish a hook-up between two inflatable boats is to have both of them running slowly in the same direction and simply close the space. The actual path of any boat is the sum of motor direction, wind current and swell position. The last factor is continually changing as waves typically pass under you every 10 to 20 seconds with velocities of 50 to 100 feet per second. Fortunately, water does not move with waves, until they hit the beach, or the ocean-going boat would never have been developed. But, the swells move you vertically two to ten feet in these intervals and the boat tends to slide down the front and slip down the back. Any boat, and especially an inflatable one, is always going some direction other than the one in which it is aimed. If both skippers are motoring in a parallel course, most of the variables are affecting them identically and closing the distance between them is simple. If you and your target try to meet head on you will probably accomplish it with a resounding bounce. The equations that determine the paths of boats are ones that Mother Nature writes on water and no man can read them.

The calmest of seas contains great forces running in all directions at various times. And, it is tempting to try to overcome these forces with power. When we were faced with the decision of picking a motor I banished the thought of getting the largest. The biggest motor that our boat could support would probably not move it faster than 25 miles per hour, and it would be a very busy 25 miles per hour for the helmsman. We decided to get the largest motor that would be convenient to carry, one about the weight of an air tank. We selected a four horsepower, two-cycle, air-cooled, super-light design that

*For safety, all loose equipment should be bagged or strapped to the seats even when the launching area is calm. Once you're out in the open sea, rough water can cause great confusion.*

weighs just under 40 pounds fully fueled and pushes the boat at ten miles per hour in calm air. We always keep an extra spark plug, the component that usually fails in a two-cycle engine, a screwdriver and pair of pliers on the boat.

The air-cooled feature of our particular motor accomplishes two things for us: It makes the motor a bit lighter than water-inducting versions, also making it more reliable in saltwater use as the corrosive chemicals of the sea stay away from the aluminum intestines of the little beast, and the unbelievable roar from this undamped engine puts us in the proper "attack" mood for a dive. It screams at us in a voice that belongs to another time and by the time we arrive at a dive site my buddy is on PT 109 and I'm deep in the black and white images of the Movietone News version of the UDT operations off Iwo Jima.

Our anchor is attached to 100 feet of half-inch nylon, three-strand rope that would be capable of handling a much larger craft, but I prefer to go heavy in anchoring practice. Also, our anchor is a ten pound articulated double hook design and several people told us that a five pound version would more than do it. Most of our diving is done in 25 to 30 feet of water and we usually release an amount of rope equal to the depth so the anchor sets well. We are careful to see that the rope does not rub on the side of the boat coming or going.

Once we're in the water the first operation is that of checking the anchor. We want to be sure that it is not hopelessly snagged while we still have unlimited air for working with it and we may want to move it if it is near some cracks which might snag it when it is being retrieved. At the time we were putting the anchor system together, a few feet of chain was recommended to prevent breakage from chafing. I decided against chain in our case as it is especially snag prone. The boat and motor only weigh a little over 100 pounds once we're off and we can move the anchor underwater in the event it is in a location where it can chafe. Our usual anchor site is in sand between kelp holdfasts and the rope usually runs around and through a few kelp trees. Nylon is much tougher than kelp.

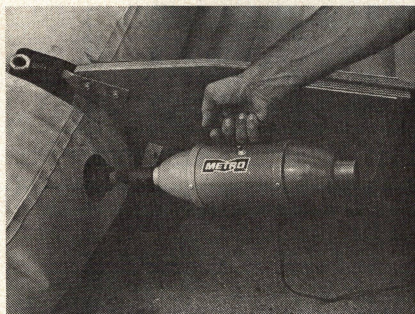
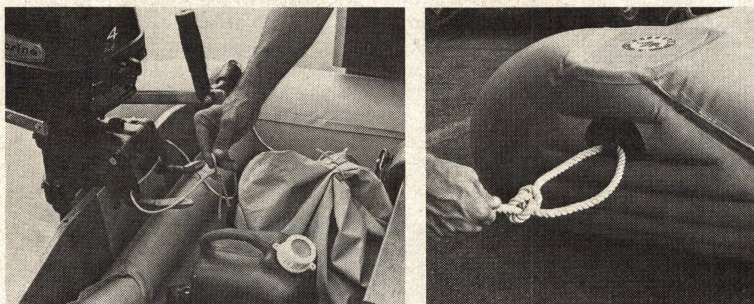
Tough as nylon rope is, it should be attached to the anchor with a "thimble." This is a metal sleeve formed from a half tube and lines the inner margin of the eye-splice through which the locking bolt runs. The eye-splice is done tightly around the thimble and we have further protected ours by "whipping" 45 pound test line around the thimble-rope unit. The locking bolt that passes through the thimble eye is safety-wired with stainless steel wire and when the entire assembly is together it is hard to imagine what combination of forces and actions would be required to remove the rope from the anchor. The store where you buy all these marine supplies will either offer the service of putting the system together, recommend someone who can do it, or give you so much free advice you'll feel like an idiot if you don't do it yourself. Our store was in this latter category and it took only two attempts to get the thing stuck together. The eye-splice may look a little strange, but it works quite well. There are several references in knot-tying, sailing and the rules of the sea. My favorite of all is *Royce's Sailing Illustrated*, published by Royce Publications, Box 1967, Newport Beach, California 92663. The book is reasonably priced, well-written and well-illustrated.

Once the anchor is down we install our divers' flag on the transom, lower the motor if we've had it up for maneuvering in kelp with the oars, and put anything that we're not taking with us in a rubberized waterproof bag. In California waters the flag



must be up when we're down and we've found that putting the motor down will keep fuel from leaking into the boat. The oars are put into the bottom of the boat in spite of the fact that they are tied to it as well. We try to eliminate any chance of loss or damage to everything. We've kept our equipment to the minimum and the loss of anything would impair the dive.

When we return to the boat, ready to board and move to a new location, we first recheck the anchor, then one diver removes his tank while the other stands by. The tank is attached to the line running around the boat. A few of the inflatable boats that we saw did not have this feature, but did have rubber handles on the sides. Something of this kind will have to be in place on the boat or you will not be able to get back on the craft. It is not possible for a diver to enter a boat of this kind while wearing his tank. If the boat you have, or purchase, does not have a line running around its perimeter or handles that you can grasp, you can make a loop of line and hang it over the side, say at a seat position, then use it in the manner of a stirrup while mounting a horse.



*Above left: A nylon parachute cord loop acts as a safeguard to prevent loss of the motor because of vibration or overturning. Note extra gasoline can and the bag for loose items. Above right: A bowline loop is required for winch launching. The front hook runs through the loop. Left: The Metro fan-type inflator will pump the boat up to about 1 lb. per square inch.*

After the first man has gone aboard the second man moves in to assist in putting the first tank into the craft. If the tank should be dropped, the man in the water can get it with little trouble. When the first tank is in the craft, the second man moves in and turns around so the man in the boat can grab the tank's handle, he then pops the straps and the second tank goes aboard the boat. After the second tank is aboard, the second man comes aboard and both attach their various pieces of equipment to the seats, lengths of rope on the transom hook-eyes and any game or recovered objects are put into nylon bags to protect the boat. This last step also keeps the mucous coating on fish and abalone from making the bottom slippery. Moving around in an inflatable boat is difficult enough without having a super-slippery surface to contend with as well.

There is always a moment of hushed anticipation when we attempt to start the motor after all the equipment is lashed

down and the anchor is aboard. In operations from a beach the most important time for the motor is during the landing. In our case the motor is able to push the craft, fully loaded, at 14 feet per second and we can get through the surf line between waves. If we were to run out of gas at a crucial moment and have to start rowing, our beach landing could be a great disaster. So, we approach the beach with plenty of gas, a well-rehearsed routine and caution. We know that within our range of load, current and wind conditions, we can count on six miles from one tank of gas. If our radius of planned operation is going to be greater than that we take plenty of extra fuel, which usually means a one-and-a-quarter gallon container.

A beach landing can be a tricky operation and it comes at a time when you are often cold, tired and hungry. Experienced beach divers in Southern California know that the surf operates in cycles and the full periods between peaks of activity can be anywhere from 5 to 15 minutes. During the calmest of days there will be peaks of great activity where a string of three or four huge waves will pound the beach and anything unfortunate enough to be in their path. At the time we are getting the boat and our equipment ready, a period of approximately one hour, we time the surf cycles for our entry, but often as not the interval between peaks has changed. The change will usually not be very great in the few hours between entry and exit, but we don't want to come in at the wrong time. As we approach we look for signs of the cycle peak. In a cove we usually land at the innermost point, and the outer rim of the cove can serve as an indicator of what the surf will be at our landing point. At Paradise Cove, for example, there is one rock outcropping a few hundred feet from where we land. Whatever is happening at that point will be happening at our position in ten seconds. In that amount of time we can cover 140 feet, passing through the entire surf zone in the last four or five seconds. By watching those rocks we can come in after the peak of the surf cycle.

The ideal beach landing is done soon after the big set of waves because the apparent level of the sea is as high as it is going to be for the 5 to 15 minutes of the interval between set peaks. The breakers that follow will all be at lower levels, giving us time to unload and get the motor away from the next surf cycle. The motor is the only piece of equipment that can be damaged by being swamped so we are always anxious to land as high as possible, get the motor off and pull the boat up and away from the next heavy set of breakers. One precaution that we always take is that of throwing the anchor out and onto the beach. This ensures that regardless of what happens after the landing, the boat is not going for a ride all by itself.

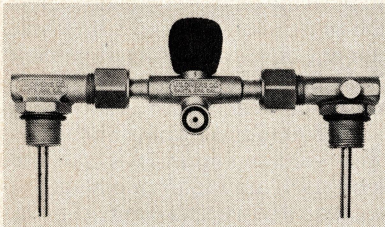
If you do dump an outboard motor in strong surf the cost of having it restored will be about half the price of a new motor because the unit has to be disassembled down to its belly button. When an incident of this kind happens the first thing to do is flood the engine in fresh water with a garden hose. Fresh water will do no harm that the salt water has not already done, it will not corrode many of the parts and it will remove some of the sand. Remove the spark plug and fill the cylinder with motor oil. Any kind of motor oil will do and 30 weight is usually recommended. Most dealers will do reconditioning.

After several beach excursions, our motor began picking up a lot of sand and the starter began to sound like an old-fashioned coffee grinder. Our friendly outboard motor dealer solved this problem for \$12.50 and admonished us to keep the

*(Continued on Page 90)*



The 0521-60 manifold features double K valves for double tanks. The cylinder valves are forged from brass with a polished nickel and chrome-plated finish to make them corrosion resistant. The on/off valve has 3000 psi service and the cylinder valves are designed to withstand a minimum pressure of up to 13,000 psi. \$79. At your nearest U.S. Divers dealer.



## New Gear



These T-shirts won't bunch or shrink when you wash them because they're 50 percent cotton and 50 percent Dacron. Available in small, medium, large and extra large, they have a colorful, silk screened design which comes on the front or the back. Each one is \$4.99, plus 90¢ shipping. From the Superboat people: Pacific Sportdiving Co., 4104 E. Anaheim St., Long Beach, CA 90804.



Collectors of small shells and other little goodies will love the Model BP Belt Pocket. Made of urethane-coated orange nylon with built-in draw, it has side gussets for expansion and a nylon zipper. It measures 5½" by 7½". Attach it to your tank harness or weight belt, or to your leg, using the straps from your knife sheath. It is priced at \$4 at your nearest Dacor dealer.

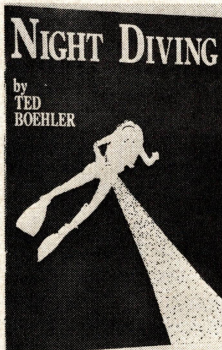


A very rugged inflatable sport boat, the Mark III Grand Raid is made of extra thick materials. The fittings are reinforced for heavy-duty operations. The entire boat is inflated from one valve, eliminating the risk of over-pressure. It measures 15'5" by 6'4" and can carry 2400 pounds or 10 people. \$3,128. Available from Zodiac, 11 Lee Street, Annapolis, Maryland 21401.

Designed especially for "dry suit" wearers, this 15 pound weight allows you to consolidate your weights, decreasing the number which must be worn to achieve desired buoyancy. The belt slides through the center of the weight, which reduces bulk. The weight sells for \$29.95, and is available from Supreme Divers Ltd., 170 King Street East, Toronto, Ontario M5A 1J3 Canada.

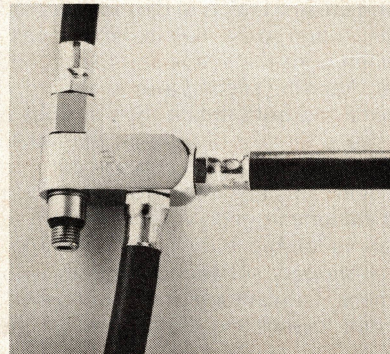


Aqueous Silicone, #1228, is a non-toxic, nonstaining lubricant which prevents corrosion. It will not harm plastics, metal or rubber. For regulators, spearguns, etc., \$2.98. Fog-Not and Mask Cleaner, #1229, cleans and defogs your mask lens with one fast and easy application. It's nontoxic and deodorized, \$1.98. Sportsways, 2050 Laura Avenue, Huntington Park, California 90255.

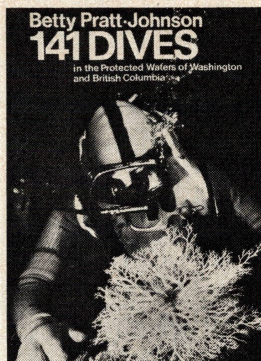


Take the mystery out of night diving with this 48 page book by Ted Boehler. *Night Diving* sheds light on such subjects as equipment and training, as well as telling you where to go, how to dive in the dark and what to do once you're down there. A good resource book for all divers, new or experienced. Catalog # 450, \$4.55. From NAUI, Box 630, Colton, CA 92324.

The 927 reversing swivel tee adapter converts a single low pressure port on the first stage to three outlets, allowing the attachment of an octopus second stage, BC inflator, or pneumatic tool. The swivel lets you position this equipment properly, eliminating loops in the hoses which can cause stress. \$14. From Sportsways, 2050 Laura Avenue, Huntington Park, California.

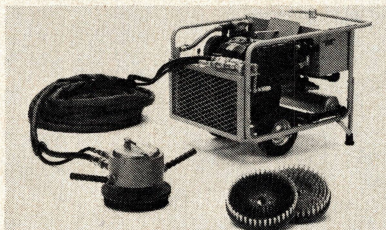




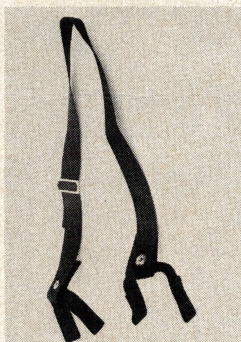


**141 Dives in the Protected Waters of Washington and British Columbia** is a must if you're going to dive in the Pacific Northwest. It has local information about wrecks, marine life, bottles, seafood and photography. Liberally illustrated with photos, charts and maps, this 394 page guide is \$11.95. The Writing Works, 7438 S.E. 40th Street, Mercer Island, Washington 98040.

The Sea Scrubber is designed to clean a vessel of any size but is most efficient for work boats, such as fishing trawlers and cargo vessels, up to 400 feet in length. Its Power Unit can be used for hydraulic tools such as chain saws and impact wrenches. It sells for \$6,988 and is available from U.S. Phosmarine, Inc., 3186 Airway Avenue, Bldg. F, Costa Mesa, California 92626.



The Sting Ray Eeze kit features two "Fast-Heat" packs. These plastic pouches contain nontoxic chemicals which, when squeezed together inside the pouch, produce heat hot enough to inactivate sting ray venom. The kit also includes instructions, container, two sterile gauze pads and two anti-septic swabs. \$10.98. Amerex Labs., P.O. Box 32827, San Antonio, TX 78216.

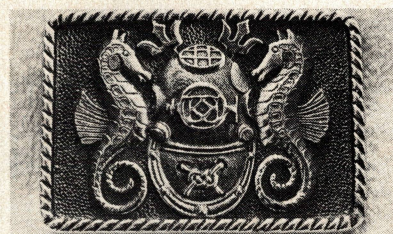


Weight Belt Suspenders were designed for the dry suit wearer or salvage diver who carries a lot of weight on his belt. Constructed of black, two-inch nylon webbing, the suspenders feature two, star-pull snaps for quick release in an emergency. The suspenders sell for \$9.50 and are available from Global Manufacturing Corporation, P.O. Box 15307, Milwaukee, Wisconsin 53215.

Depth Memory is a feature of the 851 Capsule Depth Gauge. When set for recording or planning purposes, the gauge automatically stores maximum depth. When attached to a drop line, it can be used to obtain bottom depth. Oil-filled and temperature-compensated for accuracy, it has a luminous face. \$50. From Scubapro, 3105 East Harcourt Street, Compton, California 90211.

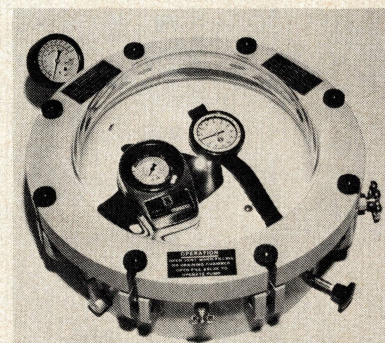
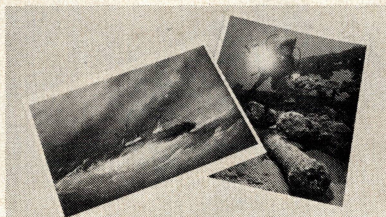


A magnificent coral stand and a silhouetted diver are the subjects of a new Jerry Greenberg poster. In full color, "Roaming the Reef" captures the essence of Caribbean diving. Printed on heavy stock, the poster measures 19 x 25 inches. It can be purchased separately for \$4, or with five other posters for \$15. From Seahawk Press, 6840 S.W. 92 Street, Miami, FL 33156.



This solid brass belt buckle abounds with detail. Decorated with sea horses and a Mark V professional dive helmet, it has a definite underwater motif. The buckle is three and one quarter inches long and two inches wide. It sells for \$22.95. COD's, add 50¢ shipping and handling. From Aqua-Marine Enterprises, Inc., 315 West Bank Expressway, Gretna, Louisiana 70053.

Two, dramatic, full-color prints of the *RMS Rhone* are now available. One depicts the ship in the 1867 hurricane which sank it and the other shows a diver swimming over the cannon on the wreck's bow, 80 ft. under the sea. The prints are 11 by 14" and sell for \$20 per set, which includes airmail postage. Contact George Marler, Box 108, Road Town, British Virgin Islands.



Designed to accurately and quickly test depth gauges, decometers, camera housings, etc., down to 300 feet, this self-powered Hydro Chamber extends a dive shop's capability and provides an indispensable service to the diver. When not being used, it is an irresistible counter display. It sells for \$675. Sea West Products, Inc., 12700 S.E. 187th Place, Renton, Washington 98055.

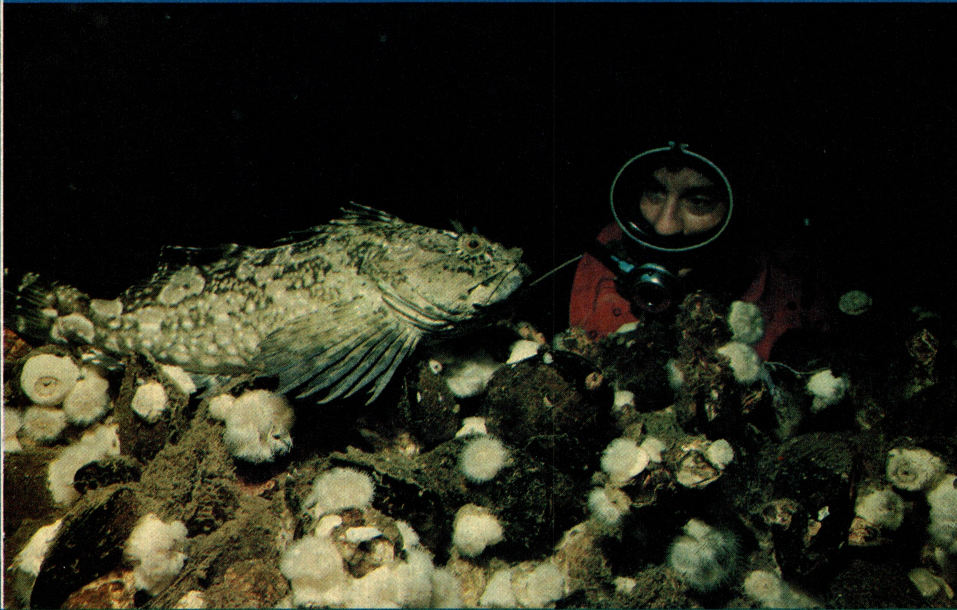






# California's Cabezon

## master of disguise



The fish was just sitting there, minding its own business, when we came along. Even after we arrived it didn't seem too concerned about our being there. It was a cabezon, a common California fish, and it was behaving uncommonly because it was guarding its eggs. We were diving underneath an offshore drilling platform in the Santa Barbara channel: Bob Evans was taking photographs; and Andy McMullen and I were observing, taking mental notes of the activity beneath these subsea erector-sets.

The cabezon is a sculpin (family Cottidae) and is sometimes called the marbled sculpin, *Scorpaenichthys marmoratus*. Cottids have large, bony heads, sometimes with spines. (The word cabezon means "large head.") Near each eye there's a little weed-like growth, or cirri, which helps to camouflage the fish against a seaweed background. The cabezon, in fact, is a master of disguise, and can change its color from a dark brown or green to a near white.

I inched closer and closer to the fish until I almost bumped into it with my mask. It stayed completely still as I reached out and stroked its rubbery body. It stuck obstinately to its eggs, which were spread out on the platform piling like a patch of purplish caviar. Cabezones spawn between November and March, and females can lay anywhere from 50,000 to 100,000 eggs. The guardian fish then stands watch, chasing off predatory fish that would make a fast meal of the eggs. It is uncertain as to whether it is the male or female that does the guarding, but whichever it is, it takes its job seriously and does not budge from its watch unless extremely disturbed. Even then it will only make a short dash to the right or left, returning just seconds later.

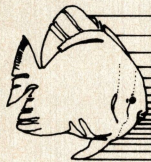
Bob gathered a few eggs, to photograph under a microscope later. When the eggs hatch, normally the little larval fish are carried with billions and billions of other planktonic forms in ocean currents until they reach a suitable place to settle and grow. The farthest north the cabezon ranges is north British Columbia, the farthest south, Pt. Abreojos in Baja.

Our cabezon friend had originally arrived at the platform as a tiny larva in the current, had settled down and lived there for years. And, unless it is caught by a fisherman or eaten by a wayward sea lion, chances are it will be there for at least several more years, reproducing and adding still more baby cabezones to the platform community.

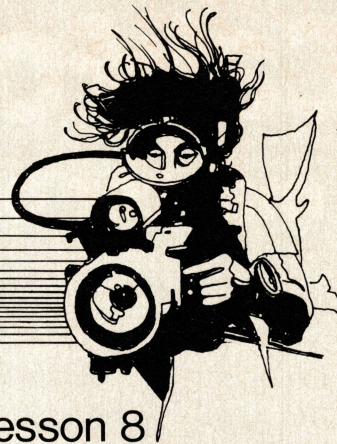
Text By Hillary Hauser Photography by Bob Evans



# U/W Photography In 12 Easy Lessons



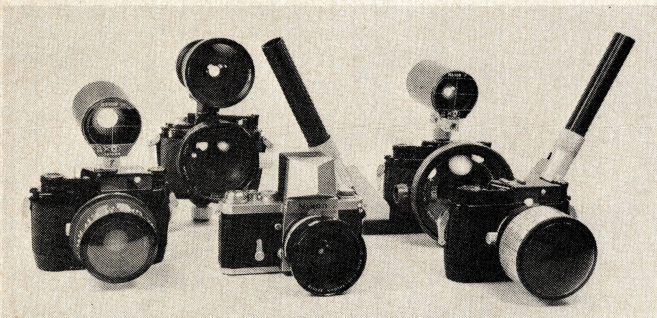
## Wide-Angle U/W Photography



By Jim and Cathy Church

### Lesson 8

**T**he purpose of this lesson is to introduce you to the concepts, basic techniques, lenses and strobes commonly used for wide-angle U/W photography. We will be concentrating on 35mm cameras — in most cases, the Nikons — but the principles will apply to other film formats as well.



photography by Authors

### WHY USE A WIDE-ANGLE LENS

Before getting involved with the equipment and techniques, let's begin by examining when and why you should use a wide-angle lens:

1. With a large subject — such as a scene showing two or three divers examining some wreckage on the bottom — you would have to back off so far to cover the scene with a Nikonos 35mm lens that your subjects could disappear into the distant gloom. But with a wide-angle lens, you could move in close and photograph your subjects sharply.

2. Even with smaller subjects — such as a diver from the waist up — your pictures will be sharper and more colorful if you use a moderately wide-angle lens to reduce the camera-to-subject distance. This will be especially true in turbid water where suspended particles reduce picture sharpness.

As you can see, the key factor is that a wide-angle lens allows you to reduce the amount of water — and the number of suspended particles — that you must photograph through. Even in clear water, it is difficult to photograph fine details at distances greater than about ten apparent feet.

### WHAT IS A WIDE-ANGLE LENS

A wide-angle lens has a short focal length. This is simply the distance from the optical center of the lens to the film plane when the lens is focused at infinity. You will find the focal length engraved on the front of the lens mount, and it is usually included in the name of the lens. For example, the Nikonos 28mm lens has "f=28mm" engraved on the retaining ring of the front lens element.

There are four aspects of focal length that you should understand before choosing a wide-angle lens:

1. The shorter the focal length, the wider the picture angle, and the greater the area photographed at any focused distances. Unless otherwise specified, the picture angle will be measured diagonally across two corners of the picture area.

2. Focal lengths ranging from about 45mm to 58mm are generally considered to be normal for a 35mm camera lens, and a 50mm lens is usually the standard. A 50mm lens has a 46 degree picture angle, tends to put the foreground and background into proper size perspective, and covers about the same picture area that your eye views comfortably.

3. Lenses with focal lengths of 35mm or shorter — such as a 28mm, 24mm, 21mm or 15mm lens — are called wide-angle lenses. Conversely, those with focal lengths of about 80mm or longer are called telephoto lenses.

4. When the lens is placed behind a flat port, the U/W picture angle is reduced to three-fourths of the picture angle in air. This is because of the refraction (bending of light) as it passes through the water/glass/air interfaces of the lens port. For example, the U/W picture angle of a 35mm lens refracts to 46 degrees which makes it a normal lens when used underwater with a flat port.

Therefore, with a Nikonos or housed 35mm camera with a flat lens port, we can define a wide-angle lens as one with a focal length of 28mm or less. The 59 degree U/W picture angle of the 28mm lens just barely qualifies it as a wide-angle lens.

### WHY USE A DOME PORT

There are two basic reasons for using dome ports with wide-angle lenses:

1. Refraction is eliminated — the wide-angle lens maintains its wide picture angle when taken underwater.

2. Light reflecting from the corners of the picture area no longer must pass through a flat port at an acute angle. This reduces distortions which cause corner softness, and also reduces chromatic aberrations — the spreading of white light into a rainbow of colors noticeable at the edges of small, bright areas in your pictures.

Ikelite states (1977 catalog) that a 28mm lens shows definite improvement with a dome port, and that lenses with shorter focal lengths require a dome port for corner sharpness and good color saturation.

The dome port of a camera housing is itself a lens, and it forms an apparent image of the subject about a foot in front of the dome. Because the camera lens sees, and is focused on this image, it must be able to focus down to a foot, or you will have to place a close-up lens over it. And, because you are focusing the camera at this apparent close-up image rather than the subject's actual image position, the distance scales marked on the camera lens will not be valid. The entire focusing range will be compressed into the closer focus settings. With dome



ports over Nikonos lens systems, the distance settings on the lens focus control are already calibrated for use with the dome port. With wide-angle adaptors, camera settings for various subject distances are attached to the side of the lens mounts.

### PICTURE ANGLE AND DEPTH OF FIELD

The wider the picture angle, the greater the depth of field at any specified aperture or focused distance. This is because depth of field increases with increased picture area as well as with smaller apertures. As examples, a 28mm lens will have greater depth of field than a 35mm and a 21mm lens will have greater depth of field than a 28mm. With the U/W Nikkor 15mm lens, depth of field extends from 1.5 feet to infinity when the focus is set for 3 feet and the aperture for f8. This increase in depth of field with increased picture area also applies to lenses with wide-angle adaptors.

### HOUSED WIDE-ANGLE SYSTEMS

Housed 35mm cameras with interchangeable lenses are frequently used for wide-angle U/W photography. The two most popular cameras for professionals and serious amateurs are the Nikon F2 (or F) and the Canon F-1 because oversized SLR viewfinders are available for both of these cameras. The two most popular housings for these cameras are the Ikelite SLR Case and the Oceanic Hydro 35.

The Ikelite SLR Case can be used with a series of interchangeable lens ports. The one recommended for wide-angle lenses with focal lengths of 28mm or shorter is the Ikelite Dome Port #5502. Other ports are available for normal and longer lenses. For a complete report on the Ikelite SLR Case, refer to our SDM Product Review in the May, 1977 issue. Various models of the SLR Case can be used to house virtually any 35mm SLR camera.

The Oceanic Hydro 35 is designed specifically for the Nikon and Canon cameras. Its standard dome port is superb with lenses as wide as 24mm, but we have detected some corner softness with a 20mm lens. However, a fish-eye port is available for use with the 20mm and extreme wide-angle lenses, and a flat port is available for the longer lenses.

### WIDE-ANGLE ADAPTORS

Aqua-Craft's Novatek 28, 20 and the Fisheye are a family of supplementary lenses which fit over the standard Nikonos 35mm to widen its picture angle. If you have a Nikonos and 35mm lens, these wide-angle adaptors are the least expensive route to wide-angle U/W photography. Let's examine them:

1. The Novatek 28 increases the picture angle of the standard 35mm lens to approximately 59 degrees, the same picture angle of the Nikonos 28mm lens. With the Novatek 28 in place, the 35mm lens can be focused as close as 16 inches.

2. The Novatek 20 Ultra Wide-Angle Lens increases the picture angle of the Nikonos 35mm lens to 95 degrees. This provides a picture angle that is comparable to the more expensive Seacor and Nikon wide-angle lenses, but for less money.

3. The Novatek Fisheye lens is a specialty lens for extreme wide-angle work. It widens the 35mm lens picture angle to 150 degrees, and the 28mm lens to 160 degrees. The fisheye format is a circular picture area within the 35mm negative area. With the 35mm lens, the top and bottom of the circular area will be cropped slightly by the top and bottom borders of the 35mm negative. With the 28mm lens, the circular area will be smaller and will be completely contained within the borders of the 35mm negative.

All of these Novatek wide-angle adaptors have focusing instructions and depth of field tables permanently attached to the sides of the lens mounts. These supplementary lenses can be attached or detached easily underwater, so you can shift from normal to wide-angle photography without having to return to the surface. They are a press-fit over the Nikonos lens assembly, and the tension necessary to hold the lens in place is maintained by a soft, nylon set screw. A hole in the lens mount

is provided so you can attach a safety cord between camera and adaptor.

There are two other wide-angle adaptors: the Green Things Opal Eye and Fisheye lenses are comparable to the Novatek 20 and Novatek Fisheye lenses. These also have depth of field tables and focus instructions attached to the lens mounts.

### U/W NIKKOR 28mm f3.5 LENS

The Nikonos 28mm lens has a 59 degree picture angle which makes it a moderately wide-angle lens. If you want a lens that is wider and sharper than the standard Nikonos 35mm, but not as wide as a 21mm, the Nikonos 28mm is an excellent choice. Because it was designed for U/W use, the front port is actually a lens element which contributes to the extreme corner-to-corner sharpness of this lens. The 28mm lens focuses from two feet to infinity, and has aperture settings for f3.5, f4, f5.6, f8, f11, f16 and f22. If the authors were limited to only one lens for a Nikonos, this would be it.

### THE SEA-EYE 21mm f3.3 LENS

The Sea-Eye 21mm Lens, Sea-View IV Optical Viewfinder, and Nikonos camera, form a wide-angle camera system that is popular with many professionals as well as serious amateur U/W photographers. Many of the SDM cover shots are taken with the Sea-Eye 21mm lens. It has aperture settings for f3.3, f4, f5.6, f8, f11 and f16, and a focus range from 2.5 feet to infinity. Both the aperture and focus controls are easy to operate, and their scales are easy to read. The viewfinder is also easy to use — simply press the rear of the viewfinder flush against the face plate of your mask. The borders of the picture area are marked on the mask at the front of the viewfinder with painted lines. We accentuate these borders by outlining them with black tape.

The Sea-Eye 21mm lens offers four features which we see as definite advantages:

1. To use filters, simply unscrew the rear lens element and drop a disc of filter gel inside. Replace the rear element and the filter is mounted inside the lens. Note: Filter gel is available in small squares at camera stores; use scissors to cut the disc from the square sheet.

2. For twin strobe lighting, Seacor has a baseplate with twin strobe arms available as an optional accessory.

3. The plastic body reduces weight, corrosion problems and helps keep the cost down. Because the plastic lens mount is softer than the metal Nikonos camera body, the mount absorbs any wear and can be replaced for about a dollar if necessary.

4. Because the Sea-Eye lenses are assembled at Seacor's San Diego, California location, replacement parts and repair facilities are readily available.

The Sea-Eye 21mm lens doesn't have a depth of field scale, but because the depth of field is so great with a 21mm lens, you can usually prefocus for three apparent feet and not bother to change the focus setting for most of your shots.

### THE U/W NIKKOR 15mm LENS

The Nikon 15mm wide-angle lens for the Nikonos is the highest-quality wide-angle lens that we have ever used with a Nikonos camera. It can produce images that are incredibly sharp from corner to corner. It has aperture settings for f2.8 to f22 in full stops, and focuses from one foot to infinity. The control knob for aperture protrudes downward from an angle of about 45 degrees to the photographer's lower left, and the control knob for focus is on the left side as with the other Nikonos lenses. The scales for both aperture and focus are located beneath a curved plastic port running around the right side of the lens mount. Thus, you can adjust both the aperture and focus without having to turn the camera around (or flip it over) to see the scales.

The optical viewfinder attaches to the accessory shoe at the top of the camera, and a clamp pressing against the bottom of



the camera body holds the viewfinder in place without placing a strain on the accessory shoe. This viewfinder produces bright images which can be focused by simply moving your eye closer to, or further from, the rear of the finder. Should you examine the viewfinder in air, you won't be able to focus on above water subjects because both the viewfinder and the 15mm lens are optically designed for U/W use only.

The advertised diagonal picture angle is 94 degrees which is wide-angle coverage without a doubt. However, although we don't have precise measurements, we suspect that the picture angle is closer to 110 degrees.

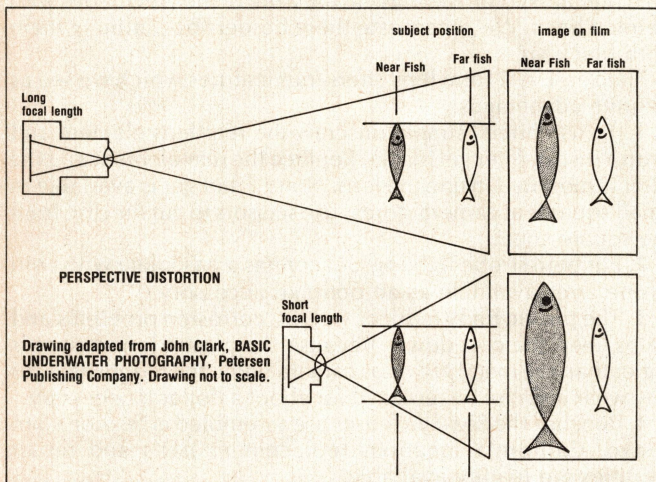
## SUPER-EYE LENS HOUSING

The Seacor Super-Eye is a specialized lens housing designed to adapt any above water fisheye lens (with a Nikon mount) for use with a Nikonos camera. The lens is mounted inside the Super-Eye, and the Super-Eye is attached to the camera body as if it were a Nikonos lens. It can provide sharp images of large subjects in extremely turbid water. Sharp focus is possible from two inches to infinity. Although we haven't used this item at this writing, we have heard good reports about it.

## PERSPECTIVE DISTORTION

Perspective — the relative sizes of near and far subjects — is distorted when you use wide-angle lenses. The wider the picture angle of the lens, the greater the perspective distortion. Let's use a few examples to illustrate:

1. Suppose that you photographed a two-foot fish at a camera-to-subject distance of one foot with your wide-angle lens. This fish's length might fill the width of the picture angle at this close distance. Thus, the fish would appear large.



drawings and photography by Authors

*This drawing illustrates perspective distortion. The near fish fills a greater proportion of the picture angle of the wide-angle lens, at the reduced camera-to-subject distance, and its size will be exaggerated. The far fish fills a much smaller proportion of the picture angle and it will appear smaller and farther away.*

2. Or, suppose that another two-foot fish had been three or four feet away from your lens. His length would have filled a much smaller proportion of the picture area, and he would appear to be much smaller in our picture.

3. Now suppose that you took a wide-angle photograph with both fish in the same picture: Each fish is two feet long, but one is much closer to the camera than the other. Because the near fish will appear larger than normal, and the far fish will appear to be smaller than normal, their relative sizes will be distorted in your picture.

This is perspective distortion: Wide-angle lenses tend to make near subjects appear to be larger and closer, and tend to make far subjects appear to be smaller and further away. This is why a wide-angle lens can be advertised as being able to make dirty water appear to be clear. The water appears to be clearer because perspective distortion makes the background appear to be further away, and this gives the impression of increased U/W visibility.

## COMPOSING WITH PERSPECTIVE

Once you understand perspective distortion, you can begin to use it as an element of composition. If you are photographing a diver with a friendly fish, compose so the fish is closer to the camera than the diver. This will make the fish appear to be larger and more dramatic in your picture.



With diver portraits, move in close to show your subject in colorful detail. The distant reef or kelp forest background can appear as a broad expanse of seascape behind your subject, which accentuates your dominant near subject.

Small tunnel openings and archways near the camera lens can appear as vast caverns when you use them to frame distant divers in your pictures. Soft-coral fronds can appear to almost reach up to the surface if they are close to the lens when you use upward camera angles. Wide-angle close-ups can be used to show coral communities and other undersea life with a different perspective.

However, there are times when you wish to avoid perspective distortion. A diver's fins, head, hand or hips can appear to be grotesquely oversized if part of the diver is closer to the camera than the rest of the body. To avoid such distortion, try to keep your subject in a flat plane relative to your camera, and don't get closer to your subject than you have to in order to photograph your subject sharply. Perspective distortion is something that you must learn to work with, and to work around, as you learn to compose with perspective.

## CORNER SHARPNESS

You may have seen wide-angle pictures that were sharp at the center, but which were soft or distorted at the corners. The main factors which affect corner sharpness are as follows:

1. While all of the wide-angle lenses and wide-angle adaptors we've used produced sharp images in the center picture area, corner sharpness does appear to be related to price. Don't expect a relatively inexpensive wide-angle adaptor to match the optical quality of a wide-angle lens costing hundreds of dollars more.

2. Match your lens to the correct port. If a dome port is required, make sure that the particular port is recommended for your particular lens.

3. Lenses are usually sharper in the middle range of apertures — sharpness can be lost when the aperture is wide open.



4. Lens-to-subject distance can affect corner sharpness regardless of the quality of your lens and dome port. The distance from the lens to the corner of the picture area is significantly longer than the distance from the lens to the center of the picture area. This additional distance from lens to corner — combined with suspended particles in the water — will reduce corner sharpness.

However, corner sharpness doesn't really matter in many pictures. This is especially true in turbid water when the subjects are photographed with upward camera angles to separate them from the background. In such cases, there isn't any corner detail to photograph.

## WIDE-ANGLE LIGHTING TECHNIQUES

Wide-angle lenses often require wide-angle strobe lighting to illuminate the large picture area covered by the lens. The basic methods of wide-angle lighting are as follows:

1. A single wide-beam strobe can be aimed downward at an angle of about 45 degrees from above and in front of the camera. This puts light on both sides of the horizontal 35mm picture area, but limits your choice of lighting angles.

2. A single wide-beam strobe can be aimed from the side, downward and inward from the left side. While this is a common technique, there will be dark areas in the right side of the picture. Lighting from one side can be used to build in shadow detail and contrast that can be pleasing in the picture, but you won't always want these shadows.

3. A pair of wide-beam strobes — mounted or held at the left and right sides of the camera — provides a more even distribution of light over the picture area. If shadow detail is desired, one of the strobes can be held closer to, or further from, the subject; or if one of the strobes has an adjustable power output, it can be turned to a higher or lower power setting.

However, wide-angle photography doesn't always require wide-angle lighting. You may wish to light only part of the subject — such as a fish guarding its eggs, or a bright anemone — with strobe light to make your subject appear prominent in the picture. We call this technique spotlighting.

To carry the spotlighting technique a step farther, you can use a two-strobe system — a wide-beam strobe and a narrow-beam strobe — for combined fill and spotlighting. The wide-beam strobe distributes light over most of the picture area to restore color and detail, and the narrow-beam strobe spotlights the primary center of interest in your picture. You can spotlight from above, the side or from behind your subject to add the desired accent.

## WIDE-ANGLE STROBE EQUIPMENT

There are several wide-beam strobe systems available for use with wide-angle lenses. As examples, all of the following

have U/W beam angles of 90 degrees or more: the Oceanic 2001, 2002 and 2003; the Subsea Mark 100, 150, R-150 and 225; and the SeaStrobe K. And of these, the Subsea Mark 150, R-150 and SeaStrobe K have selector switches for sync or slave modes. Oceanic Products also has a slave sensor which fits over the male EO connector of a strobe sync cord; thus, any strobe with an EO connector could be used as a slave.

Other strobes can sometimes have their beams widened by means of optical wideners:

1. Many housed strobes have accessory wide-angle attachments which fit over the reflector and flashtube of the strobe and widen the beam angle.

2. The Oceanic HydroStrobe IV housing for the larger Honeywell Strobosars has a special optical port to maintain a 70 degree beam angle, and a second optical insert can be placed behind the port to increase the beam angle to 110 degrees.

3. The SR 2000 submersible strobe has an accessory optical widener which fits over the front of the strobe and is held in place with a nylon set screw. Two SR 2000 strobes — master and slave models with optical wideners — can be teamed up for wide-angle coverage.

However, remember that whenever you widen the beam of the strobe, you will lose some light intensity in terms of aperture or guide numbers. You will have to open the lens by an additional one or more stops if you use an optical widener.

## FOR MORE INFORMATION

To learn more about the equipment discussed in this lesson, write to the following addresses:

1. Canon F-1 and wide-angle lenses: Canon USA, 123 Paularino Ave., East Costa Mesa, Calif. 92626.

2. Green Things Opal-Eye and Fisheye lenses: Green Things, Box 695, Coronado, Calif. 92118.

3. Ikelite camera and strobe housings: Send \$1 to Ikelite, Box 88100, Indianapolis, Ind. 46208, for a catalog.

4. Nikonos and Nikon cameras and lenses: Consumer Relations Department, Ehrenreich Photo Optical Industries, 623 Stewart Ave., Garden City, N.Y. 11530, for free brochures.

5. Novatek 28, 20 and Fisheye lenses: Write to Aqua-Craft, 3280 Kurtz Street, San Diego, Calif. 92110, for a free catalog.

6. Oceanic camera housing and strobes: Send \$1.25 to Oceanic Products, 814 Castro St., San Leandro, Calif. 94577.

7. Sea-Eye 21mm lens, Super-Eye and accessories: Seacor, Box 22126, San Diego, Calif. 92122, for free brochures.

8. SR 2000 strobe and accessories: Send 50¢ to Underwater Kinetics, Box 2125, La Jolla, Calif. 92038, for a catalog.

9. SeaStrobe K: Write to Sea Research & Develop., 1221 Peppertree Dr., Sarasota, Fla. 33581, for a specification sheet.

10. Subsea strobes: Write to Subsea Products, Box 9532, San Diego, Calif. 92109, for free brochures. ➤

## SUGGESTED ACTIVITIES

1. Using a pencil, ruler and sheet of graph paper, check the accuracy of the authors' answer to question three in questions and answers.

2. With graph paper, try different picture angles, subject sizes and distances, to estimate the size of the image on film. The 35mm negative is 24mm by 36mm. Rounding to 25mm to an inch will give you a close estimate.

3. Think about the subjects in your dive area. List those subjects with which perspective distortion could be used as an element of composition. List those subjects which would not be enhanced by perspective distortion.

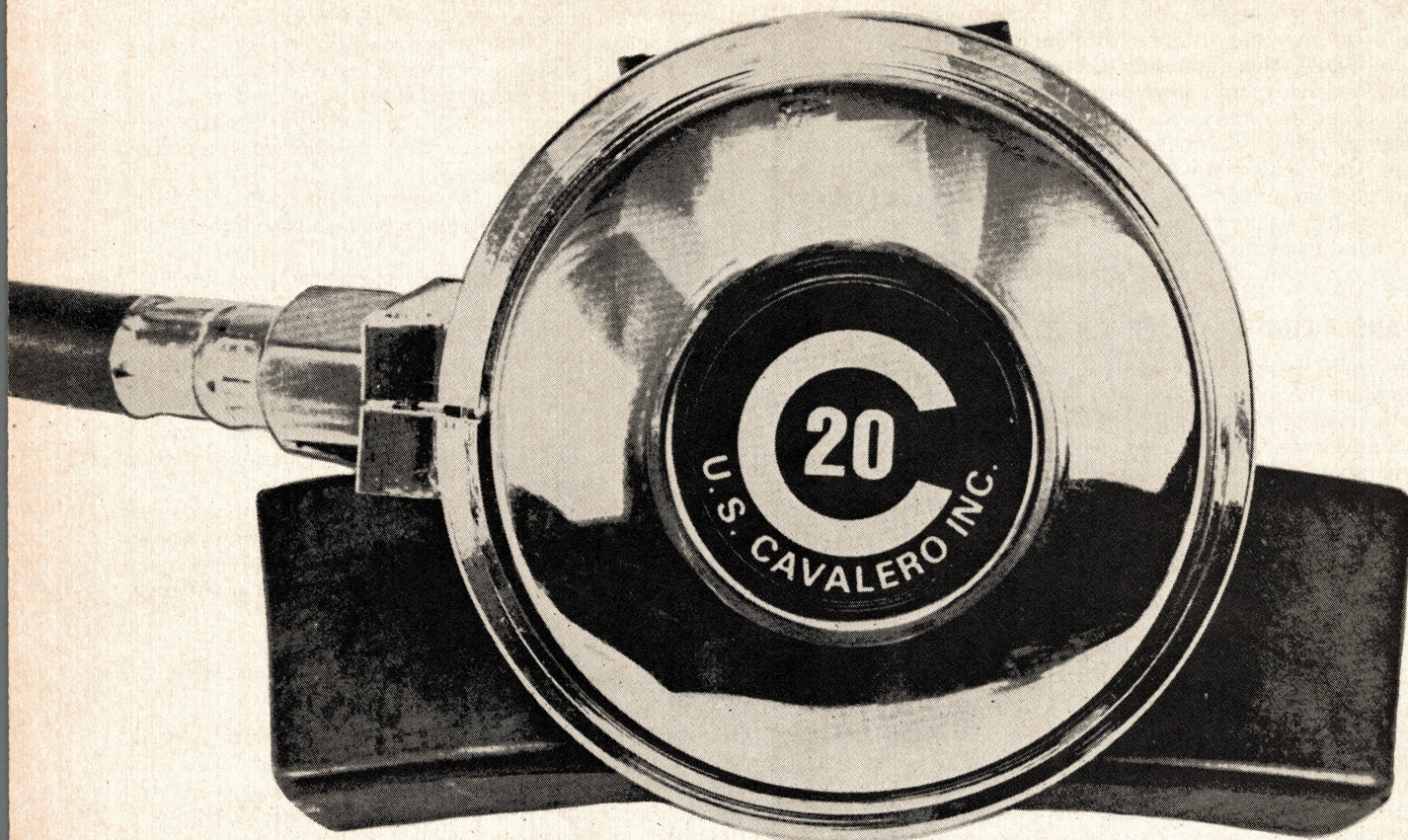
## QUESTIONS AND ANSWERS

1. Should all lenses be housed behind dome ports?  
2. If a camera is housed behind a flat port, and the U/W subject is four measured feet away, for what distance would you focus the camera?

3. If you photographed a four-foot fish broadside, four feet away, with a wide-angle lens having a 90 degree horizontal picture angle, how long would the fish's image be on a 35mm slide?

ANSWERS: (1) No. (2) Set the focus for the apparent distance of three feet. (3) The image would be about half (18mm) of the width (36mm) of your color slide.





# Cavalero's New High Pressure Regulator

By Jim Hall

American divers seldom get a glimpse of the equipment popular in other parts of the world. Surprisingly, our country has not been the trend setter in recent years. For example, in Europe, the standard "72" scuba tank is considered low pressure. On the Continent, where scuba diving began, tanks are routinely filled to 5000 or even 6000 psi. European regulators have abandoned the familiar yoke arrangement and have adopted a universal screw-in fitting known as the DIN (for German industrial standard) valve.

If you own a Poseidon or AGA regulator, you are already familiar with the DIN valve fitting. This arrangement was developed through a mutual engineering effort by the European manufacturers to provide a safe and dependable way of attaching regulators to super high pressure scuba tanks. Until the introduction of the DIN fitting, most regulators in Europe used a yoke arrangement similar or identical to the one used by domestic brands. However, with the advent of 5000 plus cylinders several problems arose. Yokes made of brass could not withstand the stresses of sealing against that kind of pressure. O-rings would ooze past their seats and blow loudly.

The answer to these and other high pressure problems was the DIN fitting. This solution replaces the yoke arrangement on the regulator first stage with a short shaft that employs a

captive O-ring on one end, directly behind which is a free-spinning wheel that screws into a special valve and seats the O-ring deep inside. First introduced about seven years ago, it has gradually become the standard regulator/valve fitting for the Common Market. Indeed, it is hard to find a regulator in Europe today that has not been designed with 5000 psi or greater service in mind.

The first regulator made in the United States that employs the DIN fitting is the Cavalero CCS-20. It is the forerunner of a new style of domestic regulators that will use similar fittings for the higher pressure cylinders soon to be available. Simultaneously, U.S. Cavalero has introduced a valve and adapter for standard tanks to make their equipment completely compatible with standard scuba systems.

The CCS-20 is a logical variation of a time-proven design. Its total concept is a firm and cautious step into diving's future. The basic design engineering of the CCS-20 was done by the president of U.S. Cavalero, Sam Lecocq (pronounced le-coke). Lecocq's career spans almost the history of American diving. In 1958, while with another company, he designed the first commercially available, single hose regulator and the first tank valve for diving. Later that year he also introduced the submersible pressure gauge to our industry. The CCS-20 is the



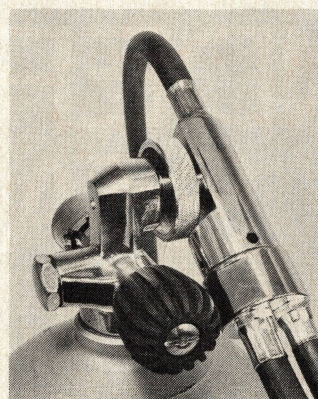
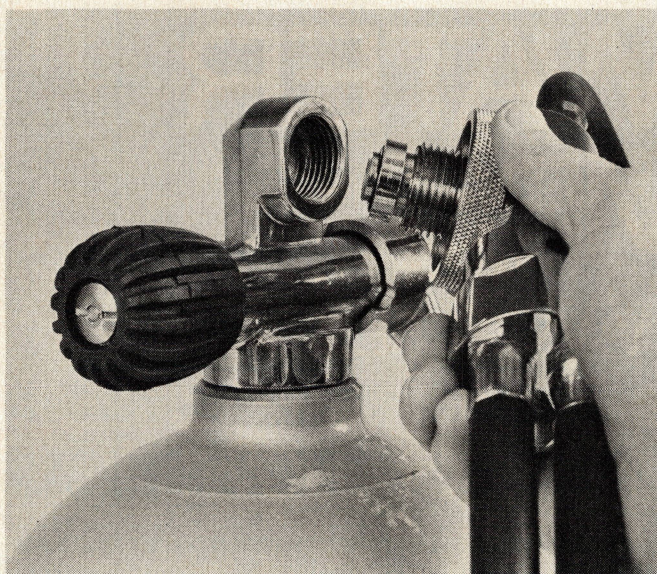
first single hose regulator produced by Cavalero, which has previously limited its production to two hose regulators available only in Europe.

The second stage body of the CCS-20 is molded from Nylon 11 and has some features not present in other second stages. Weighing one-fifth that of a brass second stage, the Nylon 11 used in the CCS-20 is corrosion-free and has superior resistance to hydrocarbons, especially those found in lubricating sprays. Nylon 11 also has more elasticity which prevents stress cracking near the hose fitting during improper service.

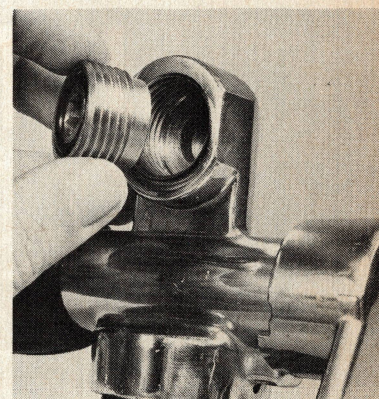
Breathing resistance has been minimized by the internal configuration of the second stage case and liberal use of Teflon on moving parts. The case is shaped in such a way that air entering from the demand valve is deflected away from the diaphragm and into the user's mouth. Both the demand lever

hole in its face. Closer inspection shows it to be heavier and thicker than any other valve, a concession to the higher pressure for which it is designed. To convert it for normal use, it is necessary to use an adapter which screws into the DIN orifice with a hex wrench. Once installed, the Cavalero DIN valve is virtually indistinguishable from other valves.

As convenient as the DIN adapter may be, it and the CCS-20 presents a new area of responsibility and concern. It is conceivable that an adapter could be used to convert the soon-to-be-available Cavalero 5000 psi system to a standard yoke arrangement. If you are a diver prone to experimentation, don't yield to temptation. Chances are that your domestic regulator and yoke were not designed to take the higher pressure. The Cavalero CCS-20 is a specially designed piece of breathing equipment and will not blow a seat, crack the case



photography by Geri Murphy



*The DIN valve fitting was developed by European manufacturers to provide a safe and dependable way of attaching regulators to higher pressure (5000 to 6000 psi) scuba tanks. Cavalero has introduced a valve and adapter (above right) so its equipment is compatible with standard U.S. scuba systems.*

## Forerunner of a new concept in American regulator design.

and valve stem are Teflon-coated. This not only reduces friction during use, but prevents sticking during storage periods.

The difference between the CCS-20 regulator and others available on the market becomes more apparent with examination of the first stage. Because the CCS-20 is designed for 5000 psi service, it is beefed up considerably over similar regulators. The first stage weighs over two pounds and has a four-to-one safety factor before it will burst. Three low pressure ports are angled sharply to the right — an adapter is needed to allow a BC inflator hose to come over the left shoulder without undue stress. The piston is balanced for maximum airflow at greater depths and delivers a good 28 cfm to the second stage. This design has been widely copied in recent years and is a testimony to its reliability.

Where you would expect to find the yoke, there is the DIN fitting — a moderately large, knurled wheel that seats the O-ring. This knob is large enough to be easily worked while wearing heavy gloves. The regulator can be seated into its valve with about four turns. Once attached, it has a remarkably clean profile that should greatly reduce snagging associated with conventional yokes.

The valve to which the DIN first stage is attached resembles most of those available today — except for the large threaded

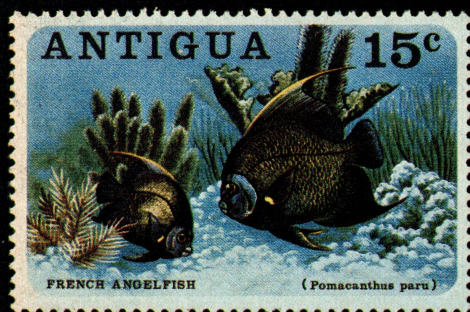
or lock up a diaphragm as is possible with other regulators.

Steps are already being taken to prevent the abuse of high pressure by careless divers. The filler yoke for the new cylinders will have an extended tube beyond the captive O-ring which will prevent it from seating in DIN valves meant for lower pressure regulators and cylinders. The valves themselves will be designed to be incompatible with the necks of lower pressure tanks and their introduction will be preceded by a vigorous campaign to produce diver awareness. Only self-regulation will prevent this advance from being abused.

The CCS-20 performed well in our test dives off of Palos Verdes, California. The large, wide-bite silicone mouthpiece (standard) was extremely comfortable. Inhalation and exhalation resistance was as good or better than other regulators of similar design. We recommend that you invest in some hose protectors to prolong the life of your low pressure hoses — the right angle arrangement of low-pressure air sources is the only real disadvantage with this regulator.

The CCS-20 is a good, forthright regulator with a place in the future of sport diving. It is obvious from the introduction of the DIN fitting and valve that there is still room for evolution in first stage design. If you want to be prepared for what we think is the trend in equipment the CCS-20 is for you. ➤





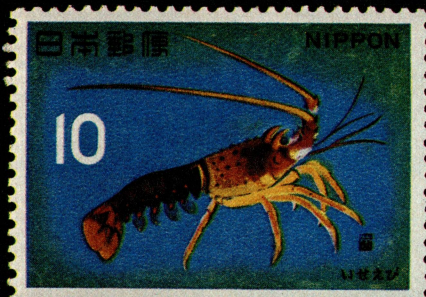
# UNDERWATER STAMPS OF THE WORLD

START YOUR COLLECTION NOW!

By Jack and Sue Drafahl



photography by Authors







Few people really look at the image captured on the face of postage stamps. Most individuals are only concerned with the rate increase and how much they must pay to mail a letter. Until recently, I fell into this category.

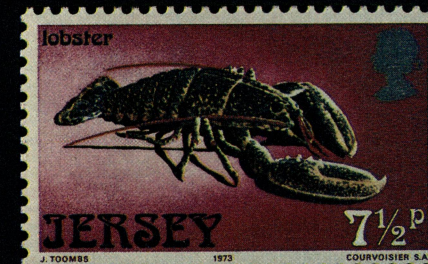
Several months ago my younger brother returned from Germany. He brought with him a large stamp collection, most of which he obtained while in foreign countries. To my amazement, I found several beautiful undersea stamps. After giving me a short course on stamp collecting, he told me that I should take up topical stamp collecting — that is, collecting stamps of a certain subject matter, for example, undersea animals.

My first step was a trip to the local stamp store, where I found all the necessary items to start my collection. I purchased a stamp album with blank pages, stamp hinges to mount the stamps, and of course, my first undersea stamps. I was then introduced to the local stamp club, where I found other topical collectors eager to sell or trade their extra stamps. Finally I discovered stamp companies exist that will send you stamps on approval; you buy what you want and return the remainder. And so, I became a full-fledged stamp collector.

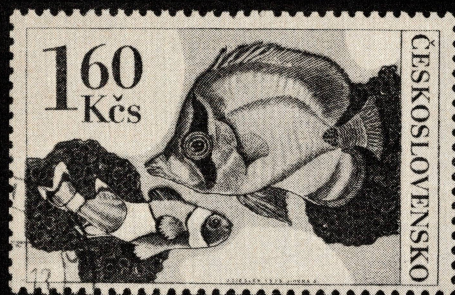
Why, you may ask, would a skin diver want to collect underwater stamps when he can see everything firsthand? The most important reason is the beauty of the stamps. Each stamp is a work of art. The intense beauty and rich colors of the subject are shown in great detail. It becomes very easy to view these stamps as miniature paintings.

If cost is your concern, don't worry. Stamps have proven to be good investments. Most increase five to ten percent in value each year. You never lose money.

Undersea stamp collecting has become a miniature biology course for me as well, because each stamp shows the animal in great detail, gives its name, and shows the location.







## UNDERWATER STAMPS

For a small initial investment you can build a beautiful and profitable undersea stamp collection

For the diver who travels the world, stamps create a treasure hunt. Upon visiting each country, a diver can stop at the local post office and buy many different undersea stamps at a very low cost. At the conclusion of the trip, the world traveler will not only have photos and souvenirs of the trip, but also a stamp record of the animals in and near the country.

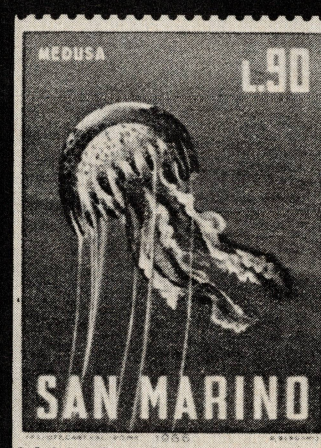
An individual who has an interest in the sea, but can't dive also has a good reason to collect undersea stamps. Through stamp collecting, he can collect his own colorful undersea pictures, almost as though he were an experienced underwater photographer.

To interest new members, dive clubs throughout the country have slide shows for entertainment. What better way to start a slide show than by using photos of stamps? Suppose you give a slide show on Panama. The beginning title slides could have Panama stamps along with the credits. You could use a photo of a grouper on a stamp, and then dissolve into an actual photograph you took of the grouper. The slide show ending credits could also include undersea stamps.

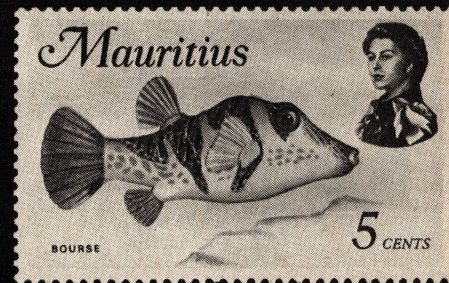
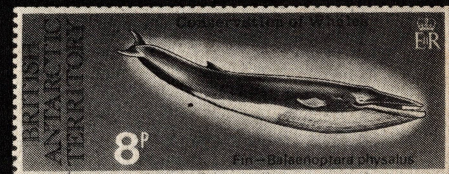
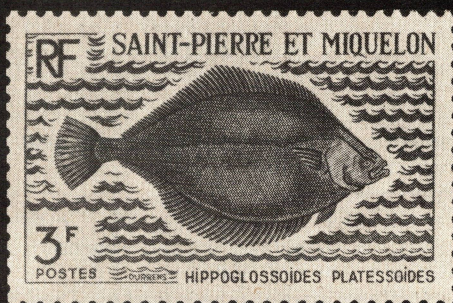
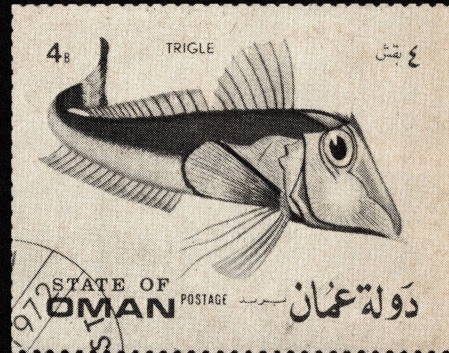
There you have it: reasons why you might want to take up stamp collecting. But wait, I left out one very important reason why I collect undersea stamps:

They give me ideas and concepts which advance stamp collecting to its ultimate. I make my own stamps! Because I have an extensive background in graphics, I am able to re-create stamp perforations and lettering on high contrast film. By double-printing my own photographs through these masks, I have been able to create my own stamp collection. Stamps with animal life of the local California area are hard to find, so I make my own. I then add these to the easily accessible stamps of other countries of the world.

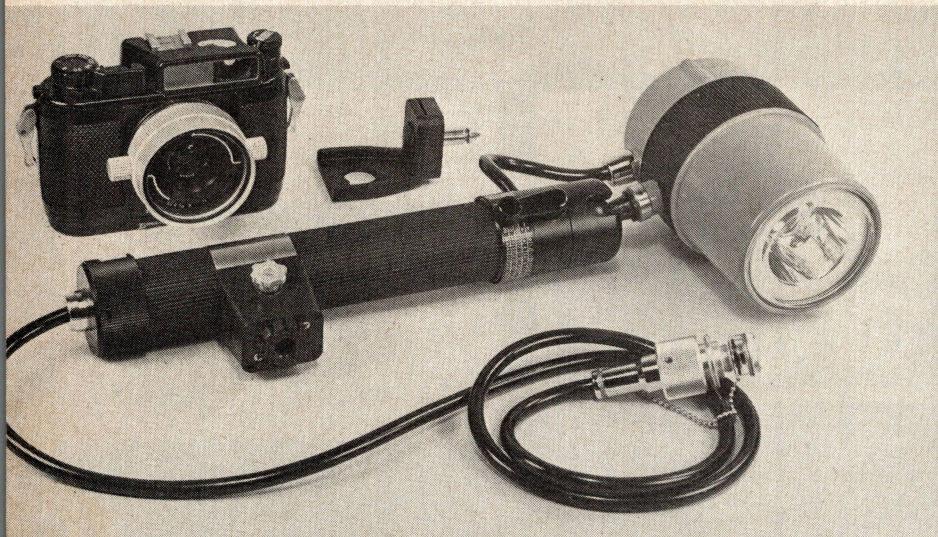
Next time you put a stamp on a letter, stop and take a good look at it. You might be surprised at what you will find.











# THE SUNPAK MARINE 28

Brighten Up  
Your U/W Photos

By Jim and Cathy Church

**A**n exciting, new submersible strobe has surfaced: the Sunpak Marine 28. Weighing in at about 3.6 pounds, it measures about 6 inches in length and 3.5 inches in diameter. The handle is 1.5 inches in diameter, 12 inches long, and the overall height of the handle and strobe is 15.5 inches.

The molded, plastic strobe is attached to the rubber-covered metal handle unit with a ball-joint which allows you to position the strobe at a variety of angles. For extreme angles, a slot at one side of the socket allow you to tilt the strobe to a full 90 degree angle. And this isn't all: The entire ball-joint fitting is mounted on a panning head that rotates on the handle. A single, easy to operate, lock lever tightens both the ball-joint and panning head when the strobe is at the desired position.

Additional strobe-angle adjustments can be made at the connection between the clamp of the handle unit and the bracket which is attached to the Nikonos camera. The clamp can be attached to the bracket in any one of 12 positions spaced in a 360 degree orbit around the metal lock pin on the Nikonos bracket. Thus, the strobe can be directed from above or below the level of the camera lens.

To separate the handle unit from the Nikonos bracket, you simply depress the clamp lock button and pull the handle free. To attach the handle to the bracket, simply press it into place over the bracket lock pin at any of the 12 positions mentioned above. The clamp lock button has an excellent, built-in safety feature: Turn the button to the right, and it locks the clamp and bracket together. This prevents the camera and strobe from separating if you accidentally press the lock button. Turn the button to the left, and the clamp and bracket will not separate if you press the button.

As a final adjustment with a screwdriver, the clamp can be moved up and down the length of the handle. This combination of adjustments — the ball-joint, panning head, handle angle and clamp position — make the Sunpak Marine 28 an excellent unit for close-up photography. You can usually bracket the Marine 28 at the desired angle, and you can change the angle easily underwater. For handheld lighting, the handle separates from the Nikonos and is easy to replace.

The battery cartridge fits inside the hollow handle, and the sync cord is permanently attached to the base of the cartridge. To remove the cartridge, depress the yellow safety release button on the basecap, rotate the cap to the left, and pull the cartridge out. An O-ring at the base of the cartridge provides a watertight seal. A button on the cap releases it from the base of the cartridge so you can clean and lubricate this O-ring.

There are two basic battery cartridges: one for alkaline cells and a sealed ni-cad cartridge. Each of these is available with

either a Nikonos II or Nikonos III connector. An optional adapter may also be available attaching a Nikonos connector to the Asahi Pentax camera housing.

The alkaline battery cartridge is the least expensive to purchase, but is the most costly to operate. The cartridge holds six alkaline cells, and one set of cells will power up to 70 full-power and many additional partial-power flashes. Thus, the practical battery life would be two cassettes of 36 exposure film. The recycle time will vary from about 13 to 30 seconds during the life of the cells. As an alternative to using alkaline cells with the battery cartridge, you can purchase inexpensive ni-cad cells and one or more small chargers. Although the recharging time will probably be 16 hours or more, the ni-cad cells will provide longer battery life with a shorter recycle time.

However, the Sunpak sealed ni-cad cartridge and Sunpak quick charger is probably the best power supply. You can fully charge the battery pack in three hours (four if the line voltage is low), and the battery will power up to about 75 flashes with a recycle time of about five to eight seconds. After about 75 to 80 flashes, the recycle time will abruptly lengthen to 30 seconds, and it is time for a recharge. If you are pressed for time, a one-hour charge will give you another 20 flashes. Because the cells in the sealed cartridges are matched cells with beefed-up contacts between the cells, and between the cells and the cartridge, they can take the quick charge. Sunpak recommends that you do not use the quick charger for ni-cad cells not designed for use in a quick-charge battery pack.

The two-stage ready light accurately indicates the power output of the Marine 28. Several seconds after the strobe is turned on, it will glow. This indicates that the Marine 28 can deliver a flash at partial power. And seconds later, when the ready light blinks, the Marine 28 will flash at full power.

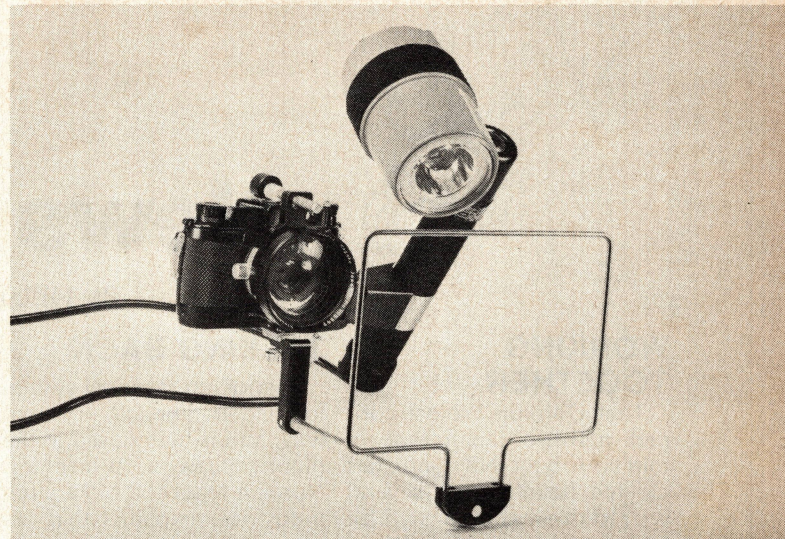
We flashed the Marine 28 repeatedly at two Wein flashmeters (WP1000 and WP500) and learned that the power output of the Marine 28 is quite stable. It didn't matter if we flashed one second after the ready light began to blink, or one minute — the light output would remain within one-sixth of a stop (the rated accuracy of the WP1000). And when we flashed with the ready light glowing, but not blinking, the power output was consistently one-half stop lower. Thus, once you work out your exposure calculations, and can handle the half stop difference between a glowing and blinking ready light, you should find that the Marine 28 is a stable light source.

For estimating U/W exposure settings, you can begin with the circular exposure table on the handle. These tables are for exposures in air for ASA 25, 64-80, 100, 125-160, 200 and





*The Sunpak Marine 28 U/W strobe is attached to the handle unit with a ball-joint which allows you to position it at a variety of angles. The ball-joint fitting is mounted on a panning head.*



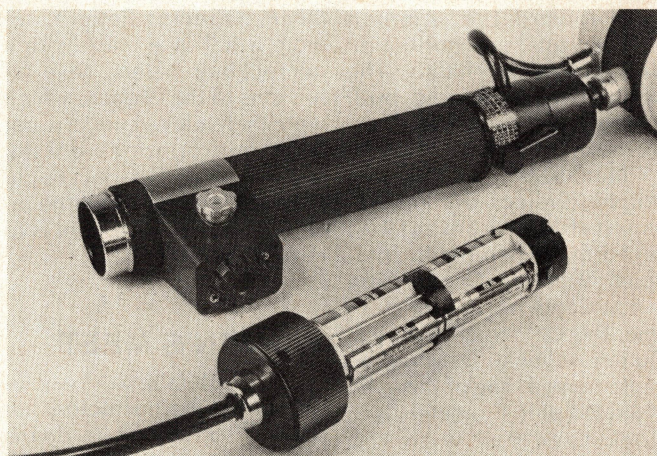
*With camera and close-up kit, the strobe is great for macro shots. Angle adjustments can be made at the connection between the clamp of the handle unit and the bracket attached to the camera.*

400. By multiplying any of the aperture/distance combinations for your ASA rating, you will have the above water guide number. You can divide this by a conversion factor to convert it to an U/W guide number for apparent distances. While we usually divide by a factor of four for strobes powered by disposable batteries, and with dome ports, we suggest starting with a factor of three with the Marine 28 because (a) you are assured of full power when the ready light blinks, and (b) the flat port narrows the U/W beam angle which tends to increase light intensity. This guide number would be for average (gray) subjects, average U/W visibility, and with the strobe held at an angle of about 45 degrees to the subject. Note: Don't try to use the table on the handle while underwater. Make your calculations ahead of time, and write your exposure settings on masking tape stuck to the side of the strobe.

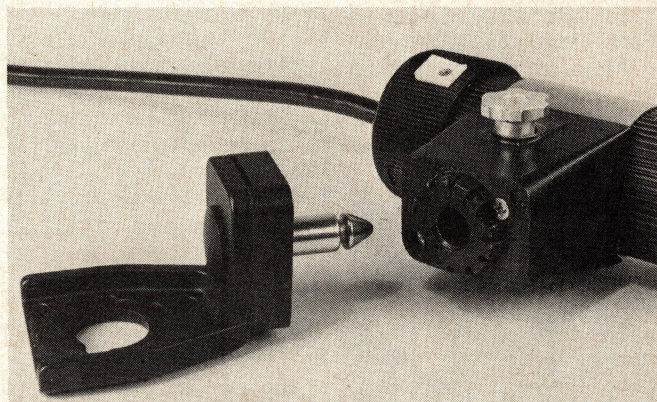
An alarm light, located to the right of the ready light, turns on if the Marine 28 accidentally floods. If so, turn the unit off, and send it to an authorized Sunpak repair facility. Sunpak recommends that you do not attempt to repair the strobe yourself. Incidentally, water will seep up to the O-ring of the front port. And because of an optical illusion, it will appear to have seeped in past the O-ring. There's no need to worry — it will evaporate out.

As for disadvantages, we are admittedly "nit picking" the small details: (a) The most prominent mark on the off/on switch is the white compound sealing the screwhead. It aligns perfectly with the word "on" molded on the strobe body when the switch is actually in the off position. The mark that you are supposed to use is small and hard to see. (b) The connector cap cover is chained to the connector where it could become snagged and lost. Also, a beginner might attach the cap to the connector when it was wet with salt water. We suggest removing this cap and keeping it in your toolbox. (c) The system we tested had no provision for an exposure meter, but an Oceanic Products meter mount for the Sekonic L-86 or Sekonic Marine Meter can be attached to the tripod socket of a Nikonos III.

In conclusion, we are impressed with the overall quality of the Sunpak Marine 28. The molding and machining is excellent and without any burrs or rough edges. All of the parts fit and operate smoothly, and no tools are needed to assemble or disassemble your Nikonos/Marine 28 system. For more information about the Sunpak Marine 28, contact: Berkey Marketing Companies, Inc. (25-20 Brooklyn-Queens Expressway West, Woodside, N.Y. 11377) for more details. The suggested retail price of the Marine 28, complete with alkaline battery cartridge and Nikonos bracket, is \$260 at this writing. An accessory slave sensor is being developed.

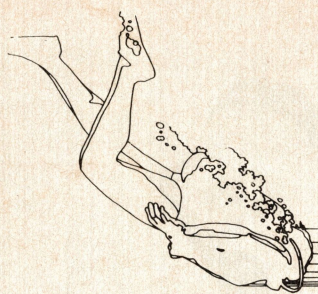


*The battery cartridge fits inside the strobe's hollow handle, and the sync cord is permanently attached to the cartridge base. Below is the Nikonos bracket, handle clamp and clamp lock button.*

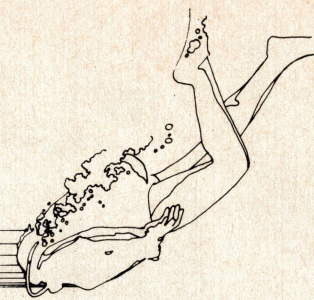


*photography by Authors*





# News Briefs



By Hillary Hauser

## WORKING TOGETHER

That Dolphin Project concert in Tokyo, Japan, that we told you about (NB, June), has created headlines in several world newspapers. The Hokubei Mainichi news in May big-lettered, "Japanese Stirred by Dolphin Project in Tokyo!" Both Americans and Japanese worked hand in hand toward the common goal of a total moratorium on all commercial whaling. The April festival featured both Japanese and American musicians in the huge Harami ("Clean Seas") Dome. The Dolphin Project, a nonprofit, charitable organization, hoped that when the International Whaling Commission met at Canberra, Australia, in June, the UN moratorium resolution on whaling would be implemented. The philosophy of the Dolphin Projectors is to work together with the Japanese rather than to boycott Japanese goods. Those interested in participating in the Dolphin Project can write Box 224, Coconut Grove, Florida 33133 (all contributions tax deductible) and there is a new West Coast office, % the Oceanic Society, Bldg. 240, Fort Mason, San Francisco, Calif. 94123.



Ric O'Feldman, president of Dolphin Project, chips away on whale sculpture in Japan.

## TALKING BACK

Hydrocom is a new system for underwater talking, two-way, and is being used in the filming of *Jaws II*. Its inventor, Norman MacLeod of Farallon Industries, explains that his system uses water as a conductor for electrical energy as opposed to conventional transmission of sound waves. During the filming of *THE DEEP*, Director Peter Yates wore a full face mask with a microphone system, gave directions to the surface, which were then relayed underwater from microphones on the support ship. No one could talk back this way, and the intention of the Hydrocom is to remedy all that.

## WOMEN'S MEET

The Professional Association of Diving Instructors has planned a women-in-diving seminar for Nov. 12 at PADI headquarters, featuring prominent speakers in the field, panel discussions, and an evening social. Subjects will include equipment, psychological and physiological aspects of women in diving, and PADI is also inviting men to take part in the seminar. For further information, contact PADI, 2064 N. Bush St., Santa Ana, Calif. 92706.

## US/USSR COLLISION

The collision of a Soviet missile sub and a U.S. frigate in the Ionian Sea last August was blamed Monday by the U.S. Navy on the Russian sub. According to an AP news story in March, the collision caused a minor injury, to an American sailor and more than \$500,000 damage to the frigate *Voge*.

## PHOENICIAN JUGS?

Last spring, a diver found two jugs, white or off-white, on the ocean floor not far from Castine, Maine. Various scientists have theorized that they could be from American Revolutionary War ships. However, one, scientist, Dr. Barry Fell, of Harvard University, believes the jugs could have come from Phoenician sailing vessels, which he thinks may have visited the coast of Maine centuries before Jesus Christ. Fell, head of the Department of Comparative Zoology at Harvard, has written a book that contends that parts of North America were settled by Celts from Portugal perhaps 500 B.C. His theory is based on the discovery of inscriptions found in New England stone caves. The location of the recently found jugs was not far from Monhegan Island, where Fell had interpreted rock carvings to read, "long ships of Phoenicia; cargo lots landing-quay." The containers have pointed bottoms, no handles, and are 12-13" high.

## BAD TUESDAYS

We heard from reader Terry Sovil re: "November Jinx" (NB, April), about the many ships that have been lost on Lake Superior on November 11 of various years. Sovil recounted: Nov. 11, 1913 — 12 ships, 254 lost; Nov. 11, 1930 — 5 ships, 65 lost; Nov. 11, 1975 — one ship (*Edmund Fitzgerald*), 29 lost. Sovil also adds, "It is very interesting to note that each of these dates was on a Tuesday! According to my calculations, Nov. 11 will fall on Tuesday again in 1980."

## TIGRIS EXPEDITION

Thor Heyerdahl, Norwegian explorer best known for his *Kon Tiki* and *Ra* voyages, has announced that he is planning a new voyage in a Mesopotamian-type ship made of reeds. He hopes to establish the fact that 5000 years ago men were able to navigate large ships to planned designations in the Arabian Gulf and Indian Ocean. Tablets containing cuneiform, or wedge-shaped, writing found in Mesopotamia, the Indies Valley, Egypt and elsewhere have indicated that contact existed between these civilizations. The routes of travel, however, have remained a mystery, and Heyerdahl's theory is that they existed overseas.

Heyerdahl's boat, the *Tigris*, will be built from Mesopotamian reeds according to Sumerian designs and will be ready in early November. Plans are to sail down the Tigris to the Arabian Gulf and from there into the Indian Ocean. "We will sail the boat as long as it stays afloat and as far as it goes, even if it takes a year," says Heyerdahl. The *Tigris Expedition* is being financed by an international broadcasting consortium including the BBC and the U.S. Public Broadcasting System.

## CORAL TEETH

A Japanese dental scientist has said that the world's best false teeth in the future will be made from coral. Dr. Ichiro Yamashita told a meeting of the Japan Oral Surgery Society in Osaka that coral lasts longer than gold, silver, or ceramic teeth.



## TITANIC RAISINGS

Some further rumblings are being made by groups that are interested in finding the *Titanic*, which hit an iceberg on its maiden voyage 65 years ago. A San Francisco organization says it is planning a million-dollar effort to pinpoint and photograph the wreck in the north Atlantic. Producer Spencer Sokale, whose firm is called Big Events, Inc., says the preliminary problems before actual picture taking are "horrendous." He has enlisted Scripps Institute of Oceanography and Woods Hole Oceanographic Institute to direct the expedition.

In Indian Orchard, Mass., the *Titanic* Historical Society continues with their efforts to find the ship. The THS has almost 1500 members, including about 35 survivors of the disaster. The founder of the group, Edward S. Kamuda, says the *Titanic* is his "permanent hobby." Kamuda reported in April that his group hired Jacques Cousteau to find the Aegean Sea wreckage of the *SS Britannic*, another White Star vessel and sister ship to the *Titanic*.

## BOTTLES UP

A couple of long-distance bottle communications were recently in the news. One ketchup bottle note washed ashore near Yakutat, Alaska, and was found by an Atlantic Richfield Co. employee who contacted the sender. "I was really flabbergasted when I read the story," said Iris Sexton Mathewson, of Kirkland, Wash., who had dropped the note overboard 19 years before, when she was 13. The other bottle story comes from Erie, Pa., where Philip Brown heard that his bottled message, sent from the Cayman Islands in April, 1975, had been picked up by two French girls on the Ile de Groix, off the Brittany coast. Philip was embarrassed about his message: "In case you're wondering where Erie is, it is on Lake Erie," he wrote. "Erie is a very small town. In fact, it is pretty rinky dink."

READERS ARE INVITED TO SEND ITEMS TO NEWS BRIEFS EDITOR HILLARY HAUSER, 8490 SUNSET BOULEVARD, LOS ANGELES, CALIFORNIA 90069

## AROUND AND AROUND FOR A COMPROMISE

After a stormy 90 day strike against government restrictions, the American tuna fleet went back to sea at the end of May. As the 130 vessels returned to Eastern Pacific fishing grounds, another go-around was building in Congress over the enactment of new regulations to save both the porpoise and the \$2 billion tuna industry. John W. Murphy (D.-N.Y.), Chairman of the House Merchant Marine and Fisheries Committee, is the author of an amendment to the Protection Act that would raise the present annual quota of 59,000 porpoises to 78,900. Tuna fishermen, in fact, went back to sea on the assurances that Murphy could get his amendment through. Then, a majority of Murphy's committee recommended that harsh financial and other penalties be imposed on captains and owners who exceed the limit of approximately 1110 animals for each vessel.

President Carter put forth a third proposal to the dolphin/tuna controversy, recommending a raise of 10,000 on the quota (to 69,000), and also a plan whereby the fleet would be required to reduce the killing by 50% over the three years from 1978-1980 and cut that number by half again each two years thereafter. This compromise plan is a response to the industry's insistence that it can reduce porpoise mortality to near-zero if given more time to equip older seiners with crew nets, etc. At the same time, the 10,000 increase would ensure the fleet of a profitable season. There are mammalogists/conservationists who feel that a compromise is essential, since vessels that cannot operate under losses imposed by restrictions would be forced to fish under foreign flags, which have no restrictions at all.

## TREASURE OR NO? TRIANGLE PYRAMID

The *Glomar Explorer*, built for the CIA by Howard Hughes, has been put into mothballs at a cost of \$300,000 a year while officials decide whether to use it for deep-sea studies or for treasure hunting. Rep. Robert Leggett (D.-Calif.) says, "She's a treasure hunter and that should be exploited. How many ships were lost during World War II? Literally thousands. There is much to be recovered." The *Glomar Explorer* has the capacity to lift objects from 18,000 feet.

## BLIND FISH

The legendary blind white fish of Persia actually exists. That's what British scientists have reported, pointing to a species of blind loach, a fish related to the carp. The search for the fish has extended over 25 years for Anthony Smith, who has reported the creature in a British zoology society journal. Loaches are totally new to science, are wholly blind, and fit the description of the blind white fish which has popped in and out of Persian literature.

There's a pyramid on the bottom of the sea in the notorious Bermuda Triangle that's bigger than the famed Cheops pyramid in Egypt. This is according to American author Charles Berlitz, who wrote a best-selling book on the Triangle. The pyramid is at 3000 feet, 600 feet high, and according to Berlitz shows that a highly developed ancient civilization may once have existed in the area. According to a news article in the Winnipeg Free Press (sent to us by reader Ron Haverick) Berlitz had planned a submarine expedition to the area sometime this summer, to try to photograph the pyramid. Says Berlitz, "If we obtain full information on the nature of this pyramid . . . we will have proven the existence — if not of Atlantis — at least of a civilization that is now submerged." Berlitz reported that the U.S. and Soviet Union have been jointly probing the Bermuda Triangle mystery for at least six months (Operation Polymode).

## \$50,000 FOR 19

Last spring, three divers from Oceaneering Intl., Santa Barbara, went to 820 feet to solve a problem for Shell Oil, 12 miles off Huntington Beach, Calif. The three — Beau Sudduth, Doug Smith and Ted Bachurin — spent eight hours in a compression chamber on deck while being taken to 820 feet pressure. It took 15 minutes to get to the work site and 19 minutes to do the job (reattaching a wire so a malfunctioning piece of equipment could be brought to the surface). Then came nine days of decompression. The cost to Shell Oil was about \$50,000.

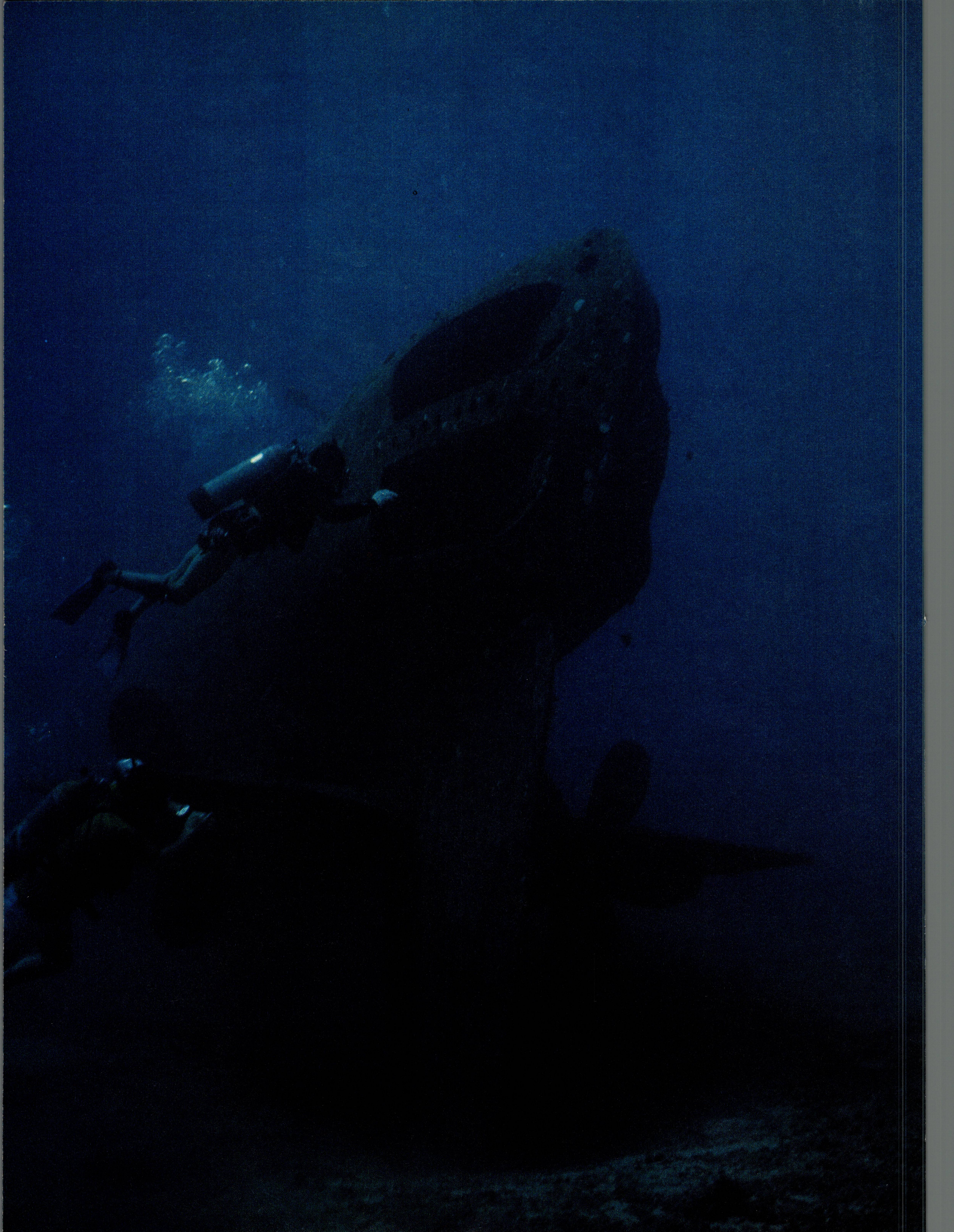
## LOOKING FOR LOOT

In 1865 gold bullion and money totaling \$180,000, stolen from a Wells Fargo stagecoach, was thrown into Mud Lake in Southern Idaho by escaping bandits. Mel Nielsen, a 70 year old treasure hunter, has been searching the lake for the loot for the past 30 years. "I'll bet everything I own that it's there," says Nielsen, who has spent \$7,000 so far probing the bottom of the lake.

## ODDS AND ENDS

Ric O'Feldman, Dolphin Project president and trainer of "Flipper," left in May for Man O' War Cay, to search for Florida and Liberty, two dolphins trained for three years and released 2½ years ago . . . Last spring, a British zoologist looking for a proper name of a herring in a natural history museum in Poland uncovered instead a priceless collection of over 100 original manuscripts by Mozart, lost since 1941 . . . A Los Angeles man paid \$625 in fines after being caught with 243 black abalones during the closed season and in a restricted area . . . Mexican film maker Jose Castello also tells us about *Tintorera*, a new theatrical film by Ramon Bravo, just out in Mexico City. *Tintorera* is the Spanish for tiger shark, and the film appears to be a south-of-the-border counterpart of *Jaws* . . . Last May, Bay State Council Divers (Milton, Mass.) cleaned up Thoreau's legacy — Walden Pond.







**"Run Silent Run Deep"** echoed through my mind as we descended, following the anchor line to our goal 140 feet below. Pointing like an arrow, the line extended out of sight into the blue depths. At 80 feet the blue gloom ahead of us began to darken and take form; as had happened many times before, I felt awe seeing the hulk of the 312 foot submarine, *Bluegill*, become a solid shape.

The object of this dive was to explore and photograph the accessible interior compartments of the submarine. Entrance to it is gained through the open hatch located on the forward deck, which gives access to the forward torpedo room and adjacent quarters. My dive partner, Pete, and I had to maneuver carefully through the hatch to keep from tangling our belts and hoses in the narrow opening. Once inside the submarine, the clear outside water turns milky and smells strongly of sulfur; this is probably due to acids escaping from the batteries still stored under the decks. The sub's one open hatch does not allow sufficient circulation to keep the interior water from becoming stagnant and poisonous to animal life. Stalactites formed of white precipitate hang from the pipes and corroding metal throughout the interior, giving the effect of an eerie, haunted house. Most of the torpedo room is barren, stripped clean by divers and the Navy.

As we moved cautiously through the narrow corridors the odor of sulfur grew stronger and each drop of water to leak into my mask and regulator added to the rotten-egg smell. The cabins were covered with a fine white snow, several inches thick, caused by massive corrosion of metals unable to withstand the acids in the water.

The *Bluegill* SS-242 was first commissioned in November of 1943. Between April, 1944 and June, 1945 her two electric motors propelled *Bluegill* thousands of miles as she engaged in war patrols ranging throughout the South Pacific. She torpedoed and sank ten Japanese ships, including a light cruiser and a sub-chaser, during her patrols. From the end of the war until 1951, the ship was placed out of commission, then in 1951 *Bluegill* was recommissioned and used for military training in the Pacific. In 1952, the SS-242 underwent cosmetic surgery, which converted her into a sleek "killer sub" and gave her the new official designation of SSK-242. From that time until her final decommission, *Bluegill* was used in various training operations throughout the western and central Pacific.

October of 1970 saw the beginning of *Bluegill's* final chapter. The Navy stripped all the usable components from her interior, and then opened the appropriate valves, allowing the

ship to fill with sea water. One hundred forty feet later, the keel settled in a cloud of sand and sediment; her final resting place is located off the island of Maui, a few miles from the historic whaling port of Lahaina.

*Bluegill* sits moored to the bottom, her electric motors silent, and her dive planes permanently folded against the hull, but life has not ended for this ship. Small coral heads and a few tufts of black coral cover her sides and deck, showing the beginning signs of a coral reef. Under the wooden deck, hundreds of goat fish, called weke (pronounced veke) by the Hawaiians, make their home.

Every vent pipe and small nook holds a surprise to be discovered. As we explore the diesel intake and exhaust vents we are often startled by conger eels as they dart out of the shadows into our probing flashlight beam. Lobsters like to tease us, too. They find hiding places just out of reach.

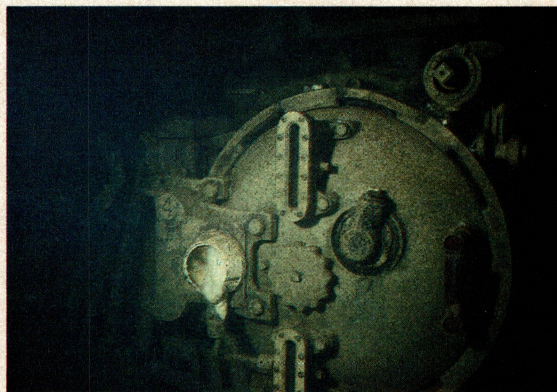
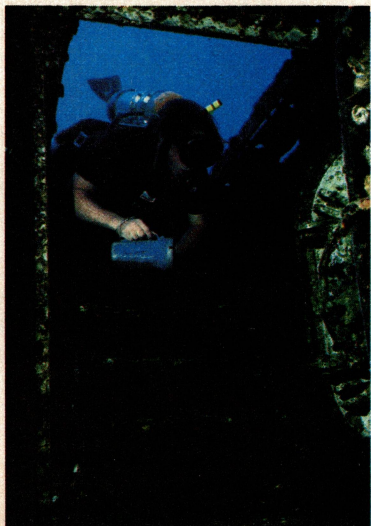
A sight that is always exciting to us is the school of eagle rays that glides in perfect formation past the submarine hunting for shellfish. On the bottom around *Bluegill* we find many helmet shells, which are one of the largest species of snails found in Hawaii. Suspended just above the bottom are the giant propellers: they are covered with bright red sponges.

Above the propellers we find large recesses which terminate at thick doors. These tubes once guided torpedoes toward enemy ships, but they now protect small fish and crabs from larger predators roaming outside. As we look from the stern forward, the sail looms faintly in view behind the school of weke. From 110 feet, the sail rises above the deck to within 80 feet of the ocean's surface. The conning tower and vent pipes extend from the open top of the sail down into the body of the sub. Menpachi, or squirrel fish, dart to and fro among the maze of wire and pipes to escape the beams of our flashlights.

Attached to the forward part of the sail is the bridge. Forward of the bridge lies the open hatch leading into the forbidding torpedo room, which is seldom visited by divers. Two sonars stand as sentries, watching over the deteriorated deck. The bulbous bow, dented from misuse in towing and docking, now rises over the Pacific sea floor.

The submarine lies upright, listing slightly to starboard. Her 312 foot length far exceeds the average 100 foot water visibility, so the deck always fades from our view, giving us the eerie feeling of seeing a ghost ship. During winter months, the moans of the humpback whales add to this illusion. The Navy has retired No. 242 and now the sea claims her as a castle for the animals that make her their home.

# INTACT AT 140 FEET!



photography by Author

## WW II Sub *Bluegill* Super Hawaiian Diving Attraction

By Ed Robinson



# The "SPINNAKER"— Featured in

## THE DEEP

When the producers of *THE DEEP* needed a regulator for the star of the world's biggest underwater motion picture, they had a tough choice to make. The one they chose was the Spinnaker. Easy breathing, superbly crafted, with an exclusive dual-diaphragm system and a totally unique set of swivel connections which allow an infinite number of positions for the air hose, making it unbelievably flexible in active use. If you're a serious diver ready to upgrade your present gear, consider the choice of the pros — the remarkable Spinnaker, another first from Richard's.



**Introductory Special**

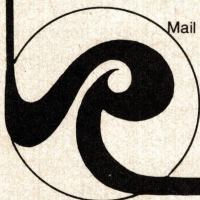
Include famous make submersible pressure gauge

**\$189.95**

Mail Order Purchase of Life-Support apparatus must be accompanied by proof of certification. When you're in the New York area visit our shop, located in famous Times Square in the heart of Manhattan, we've been serving divers for over 30 years with the latest gear from all over the world.

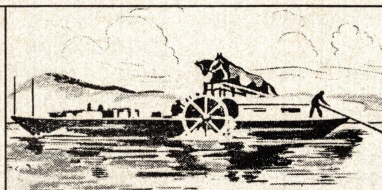
**richards aqua lung center**

233 WEST 42 ST., NEW YORK, N.Y. 10036 (212) 947-5018



## SCUBA USA goes to NEW HAMPSHIRE

and dives its landlocked wrecks  
in the Sept. **skin diver**



WRITE FOR THE ONLY  
**FREE**  
COMPREHENSIVE  
PRICE CATALOG  
OF UNDERWATER CAMERAS,  
HOUSINGS AND ACCESSORIES

WE ALSO CARRY "TOP-SIDE"  
CAMERA EQUIPMENT  
WE'RE NIKON  
SPECIALISTS

**Camarine**

19800 VENTURA BOULEVARD  
WOODLAND HILLS, CA 91364  
TEL. (213) 883-2711

## BACK ISSUES of skin diver

diving action around the world

**Are still available.**

ORDER NOW as some issues are  
in limited supply.

☒ Check the ones you would like:

**1975**

☐ Sept  
☐ Oct  
☐ Nov

**1976**

☐ Jan ☐ May ☐ Sept  
☐ Feb ☐ June ☐ Oct  
☐ Mar ☐ July ☐ Nov  
☐ Apr ☐ Aug ☐ Dec

**1977**

☐ Jan ☐ May ☐ Sept  
☐ Feb ☐ June ☐ Oct  
☐ Mar ☐ July ☐ Nov  
☐ Apr ☐ Aug ☐ Dec

NOTE: All available issues subject to supply. 1977 back issues may be ordered only after they have appeared on the newsstands. Please allow 4 to 6 weeks for delivery.

**SEND \$2.00**

per copy, check or money order, along with  
your name and address to:

**Petersen Publishing Company**

Customer Service Dept.

6725 Sunset Blvd., Los Angeles, CA 90028

## Sleeping Sharks

(Continued from Page 35)

Meanwhile Valvula calmly swam in the rear opening and, coming from behind, softly glided to a landing beside the unperturbed shark. Looking up to acknowledge me, Valvula smoothly placed his hand on the shark and casually stroked it laterally around the base of its dorsal fin. My camera triggered continuously. Juan anxiously awaited his turn to lie next to and pet the sleeping shark. The small shark was oddly complacent the entire time. I had a hard time convincing myself that this creature was a member of a normally very aggressive family of sharks, the requiems. We left, but the resting shark remained.

Aboard the skiff, we changed tanks as Valvula motored us back to La Punta, the dive site of the previous day. Valvula remained topside but told us which areas to explore first.

The third sleeping shark of our adventure was found in a cave adjacent to the one that we had found occupied the day before. This requiem was considerably larger than the one we had just seen. Appearing very well-fed, the six-footer did not menace Juan at all, as he very adeptly made his way into the rear of the cave and gently lay alongside its body.

After a number of photographs, I motioned to Juan to leave the cave so I could get additional shots of the requiem alone. Seconds after Juan had left and an instant after my strobe had fired, the shark became startled. I had been lying in front of him, inches away, my body wedged against the side of the cave, when two divers from another boat indiscreetly swam full speed into the cave causing abnormal turbulence and catching both the shark and me by surprise.

The requiem was alarmed and agitated at the sudden intrusion. Intent on leaving, he vigorously shook himself from his resting place, very greatly stirring up the sand and silt. Reflexes brought my camera back in front of my face — this time not to focus but to protect myself. Being faced with danger head-on, I frantically began elbowing my way out backward. Fortunately, the requiem whipped into a 180 degree turn and torpedoed out the other side of the cave opening.

Outside the cave, I turned to look for the shark, which by then had circled and was headed back toward the opening. The other two divers who had disturbed the shark audaciously remained inside the cave. The requiem approached the cave but appeared confused and quickly swam off. I suspected it wanted to go back into its resting place but turned away when it saw the cave still occupied.

Noted shark experts have speculated that the anomalous sharks of Isla Mujeres may be drawn to the caves for parasitic removal and/or for narcotic-type effects,



possibly attributable to oxygen, salinity, and other chemical differences that have been measured inside the caves. If an undetected natural mechanism does exist that somehow placates the requiem's usually aggressive behavior, consider the potential for developing an ultimate shark protection for swimmers and divers. Shark tranquilizers?

Isla Mujeres is accessible by plane via Aeromexico from Cozumel or Aeromaya from Merida, the capital city of the Yucatan. In addition, the ferry that crosses from Puerto Juarez is minutes away from Cancun's jetport. There are also daily flights from Cozumel which is not to be overlooked for its diving. Gustavo and Cynthia Rodriguez, who operate Mexico Divers, can be contacted at their shop on the waterfront, beside the Ferry Exit, Isla Mujeres, Quintana Roo, Mexico. 🐠

## Pelican Float

(Continued from Page 36)

tackle box as insurance against the day their pole slips over the side. Clipped to expensive camera housings, the Pelican Float is always ready in case equipment must be ditched in an emergency. The float can be tied to a stanchion on your boat and tossed overboard for an excellent, and easily seen, current line — a safety factor when the current is strong.

Perhaps the best testimony for the Pelican Float comes from the people who are using it the most. According to Dave Parker, president of Pelican Products, his marker-recovery system is selling rapidly in the marine biology market. Scientists have been trend-setters in dive equipment since the early days of the sport and the instant acceptance of the Pelican Float with this group speaks well of its field performance. County search and rescue teams are also snapping them up, not only for their divers, but for the convenient way they can lay out a grid from a moving boat.

Parker, an active California diver who originally invented this float for his own use, is fond of claiming that it is worth its weight in gold. I can't vouch for that, but in the three months I have been using a Pelican Float I have found it to be worth its weight in scallops, lobsters, anchors and nearly-new fishing poles. Its pragmatic design is well thought out and I can think of no modifications to improve it. A point to remember, as I learned one day while scanning an area for a wreck from our boat, is to pull the pin completely free of the friction clamp that holds the line before tossing it over the side to mark a spot. If not completely free, the line will not deploy and you will have deep-sixed \$18.50 worth of equipment.

If you are interested in finding out more about the Pelican Float Marker-Recovery System, the Pelican Tank Pack-Rack and other products from this new company, write to Pelican Products, P.O. Box 1511, Torrance, Calif. 90505, or visit your Pelican dealer. 🐠



## TRAM

**wants the person who removes the CB from your car to be you!**

Tram now offers the unique, new Snap Brak™ mount that lets you take your Tram mobile radio with you when you leave your car unattended. That's the greatest theft deterrent ever!

Snap Brak mount was invented by Tram President Jim O'Callaghan so that you can protect your investment when you buy one of the five models in the great new line of 40-channel mobile CBs from Tram.

Snap Brak is used with all Tram 40-channel mobile CBs and it's included *at no cost* with the radio. Your Tram CB snaps in and out of the mount in seconds. Tram's quick-disconnect power cord makes using the Snap Brak easy and habit-forming.

Ask your CB dealer about the new line of Tram radios and the exclusive Snap Brak mount that helps prevent radio rip-off. It's a pleasure to use.

**1-2-SNAP! Your Tram CB is safe with Snap Brak.**



**TRAM/DIAMOND CORPORATION** Lower Bay Road, Box 187, Winnisquam, NH 03289 (603) 524-0622




### PRESCRIPTION FACE PLATES

**FOR DIVERS WHO WEAR EYE GLASSES**

My custom-made, hydro-optically ground, prescription face plate is the original and only method of correcting your vision underwater exactly as your eyeglasses do on land without underwater distortion, lens fogging or breakage problems. Precision ground safety lenses permanently bonded to the face plate of any mask with a proven optical epoxy made for underwater use. Personally made by an optician who is a diver. Used and approved by divers in all 50 states, over 40 foreign countries. U.S. Navy, U.S. Army Engineers, and Smithsonian Institute. Send your own mask or face plate with your lens prescription and distance between eyes. Only \$38.50 for my exclusive super extra large, wide angle, king size lenses. Air mail or spec. del. return \$1.00 extra. New masks also supplied. Or send for free literature. Unconditionally guaranteed.

**LEONARD MAGGIORE**  
Optician for Divers  
1702 Gates Ave Brooklyn, N.Y. 11227  
212 EV 6-5339



*Robert Straight*  
*creates jewelry from the sea*

Seaspace Fish  
Sterling Silver  
\$20

This unique collection of jewelry and sculpture is handcrafted for the diver, in precious and semi-precious metals.

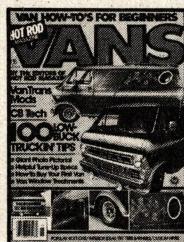
For catalog send \$1.00 to: Robert Straight,  
8439 Barkley, Houston, Tx. 77017 713/643-4051



# Magazine 12 Specials

**Only \$1.95 each**

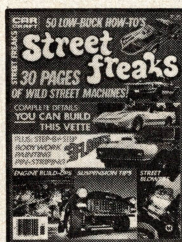
A unique selection of Petersen's most popular special interest publications—all fully-illustrated and priced to fit your budget. On sale at newsstands everywhere or use the handy coupon below. Order today—only limited quantities available.



Hot Rod Vans No. 1  
128 pages



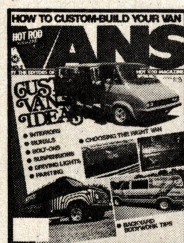
Hot Rod's Rod &  
Custom No. 2  
96 pages



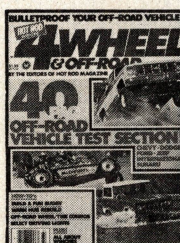
Car Craft's Street  
Freaks  
96 pages



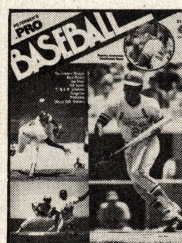
Hot Rod's  
4-Wheel &  
Offroad No. 2  
104 pages



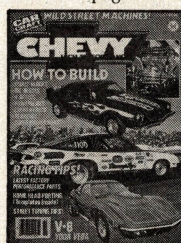
Hot Rod Vans No. 2  
120 pages



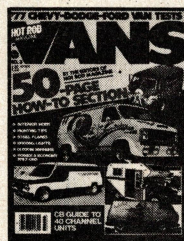
Hot Rod's 4-Wheel  
& Offroad No. 1  
116 pages



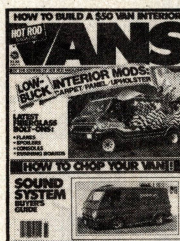
Petersen's  
Pro Baseball  
128 pages



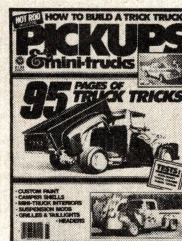
Car Craft's Chevy  
Hi-Performance  
104 pages



Hot Rod Vans No. 3  
112 pages



Hot Rod Vans No. 4  
112 pages



Hot Rod's  
Pickups &  
Mini Trucks  
112 pages



Hot Rod's Street  
Machines &  
Bracket Racing  
96 pages

Please send the following publications postage paid.

- ☐ Vans No. 1 \$1.95
- ☐ Rod & Cust. No. 2 \$1.95
- ☐ Street Freaks \$1.95
- ☐ 4-Whl. & Offrd. No. 2 \$1.95
- ☐ Vans No. 2 \$1.95
- ☐ 4-Whl. & Offrd. No. 1 \$1.95
- ☐ Chevy Hi-Performance \$1.95
- ☐ Pro Baseball \$1.95
- ☐ Vans No. 3 \$1.95
- ☐ Pickups & Mini Trucks \$1.95
- ☐ Vans No. 4 \$1.95
- ☐ Street Mach. & Brck. Racing \$1.95



Petersen Publishing Co.  
Magazine/Circulation  
6725 Sunset Blvd.  
Los Angeles, CA 90028

C19-877

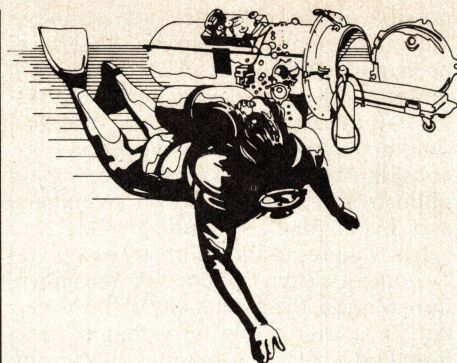
Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ ZIP \_\_\_\_\_

I am enclosing check or money order for the total amount of \_\_\_\_\_. Please allow 4-6 weeks for delivery.



## Medifacts

By Charles V. Brown, M.D.

*Dr. Brown, SDM's medical consultant, receives many letters concerning dive-related medical problems. Here are just a few, with his answers.*

Thomas Jacobson of the U.S. Coast Guard is considering a career in commercial diving. He wonders whether burr holes in the skull, made five years ago to drain blood after a head injury, would create a problem in bell and saturation work. It has long been thought that bubbles are more likely to arise or lodge in areas of previous injury, presumably because scar tissue impairs circulation. The risk seems negligible. Even if some bubbles did lodge in the tissue filling the burr hole defect, it would not affect the brain or do significant harm. Since there's no gas-filled cavity involved, barotrauma need not be considered.

Dr. Salyer of Nashville, Tenn., has heard that his 13 and 15 year old children shouldn't dive deeper than 33 feet, because beyond that depth the high pressure might cause organ deformities in anyone less than 18 years old. The only deformity threatening young divers more than older ones would be a bubble in a bone's growth plate, and I've never heard of such a case. I'd expect young bones to be less susceptible than older ones to bubble damage, because of their better circulation. The main argument against youngster's diving involves their ability to handle equipment, their judgment, and their tendency to take unwarranted risks. If they check out adequately in this respect, I would not impose a depth limit different from other divers at the same level of experience.

Mr. Paine of Auckland, New Zealand, reports that he suffered a central retinal vein thrombosis — a blood clot in the vein draining his right eye. This was not related to diving, as it happened several months after his last exposure. His physician cautions against further diving, however, on the grounds that: 1. mask squeeze or reverse squeeze might



damage fragile new blood vessels forming in the retina, and; 2. diving increases the coagulability of blood, so the eye could be predisposed to further clotting. As Mr. Paine is very keen on diving, he is reluctant to give it up. The following is our reply to him:

Your doctor gave you sound advice. The rule is, when in doubt, be conservative. You wonder if there is any basis for a more liberal opinion. I've heard of no case involving diving after a central retinal vein thrombosis, so my remarks are entirely conjectural.

I don't believe the face mask would create any problem. Positive pressure could occur only while clearing the mask or while ascending, and would be small. Even if you had the straps far too tight and pressure did build up, it would be distributed throughout the eyeball equally. This would reduce vessel caliber and blood flow within the eye. Because of the pressure gradient between the eye and the intracranial space, drainage through the central retinal vein would be facilitated, not blocked.

The negative pressure of a severe mask squeeze could rupture small vessels in the conjunctiva, which would give you a red eye, but not affect your vision. The delicate new vessels inside the eye would rupture only if expanded beyond their elastic limits. I don't believe this is possible, because although the eye might move forward a little, its strong structural envelope would prevent significant expansion. Conceivably, negative pressure behind the eye could expand the part of the vein between the eye and the skull, perhaps damaging its wall while also slowing the speed of blood flow within. This would favor thrombosis. However, mask squeeze is easily avoided by the experienced diver.

Diving definitely does increase the coagulability of blood. This appears to result mainly from reactions at the blood-bubble interface, and might be prevented if your dive profile does not permit bubble formation. Following the no decompression tables won't guarantee against bubbling. If you adhere to safety rules such as dive only when feeling well, breathe normally, don't over-exert, and ascend slowly, and if you limit yourself to conservative dives, for instance, one hour at 33 ft., bubble formation should be minimal.

Ultimately, it comes down to how much you're willing to risk. If you very much want to dive, there are other approaches such as taking anticoagulant or anti-platelet medication. Check with your doctor about this. Check also about whether you have predisposing factors to clotting, such as hyperlipidemia or use of alcohol, that might be correctable.

I'd welcome input from anyone who has more concrete information on this.

April Harwood of Honolulu writes as quoted: "Yesterday I made a dive to approximately 120 feet, 20 feet above the

# SPEND A BUCK SAVE A HUNDRED!

That's right. Berry guarantees that you'll save at least a hundred dollars, often more, on every tank and regulator outfit in the 1977 Berry catalog. Comparable savings are available on suits, compensators, and many other important equipment items. Prompt, free delivery is an added Berry value. Prove it to yourself. Send \$1.00 for your copy of the worlds' largest scuba catalog today.

## CHECK THESE PRICES ...



Poseidon Cyclon 300 Regulator  
Poseidon Pressure Gauge  
U.S. Divers 80 J Aluminum Tank  
U.S. Divers Mariner Kam Back Pack \$299.00  
With galvanized steel 71.2 J tank \$252.00

U.S. Divers Aquarius Regulator  
U.S. Divers Mariner Back Pack  
Galvanized Steel 71.2 J Tank \$169.00

U.S. Divers Calypso IV Regulator  
U.S. Divers 80 J Aluminum Tank  
U.S. Divers Mariner Back Pack \$265.00  
With galvanized steel 71.2 J tank \$212.00



U/W Tank Pressure Gauge \$34.95  
U.S. Divers Pro Dive I gauge  
Features a side-mounted swivel  
head, luminous dial, 3500 psi range.  
Rubber anti-shock cover.



Nemrod Gaucho Speargun \$29.95  
Compact 28" length is great for  
most types of spearfishing. Range  
8-10 feet. Made entirely of  
anodized aluminum, stainless steel,  
and other non-corrosive materials.

Sherwood Octopus Unit \$39.95  
Top brand, fits all regulators.  
Easy-breathing downstream valve  
system, rugged, dependable.

U.S. Divers SSII Wet Suit \$59.95  
Top quality suit with nylon lining,  
textured rubber exterior, full  
1/4 inch thickness. All seams  
sewn and glued. State height and  
weight with order.



The Berry Bag \$16.95  
Heavy nylon backed vinyl material,  
wrap around handles, interior  
storage pocket, more. Will hold  
a full set of gear, less tank.



Enclose check or money order for immediate delivery on above items.  
No C.O.D.'s please. Send \$1.00 for complete catalog or write for free  
sale brochure.

6059 W. ADDISON  
CHICAGO, IL. 60658  
312-725-2032

12003 S. CICERO  
ALSIP, IL. 60618  
312-371-3366

Mail order purchase of life-support apparatus must be accompanied by proof of certification.

## NATIONAL SCUBA REPAIR

DIVING EQUIPMENT REPAIR IS OUR ONLY BUSINESS

3 DAY SERVICE  
Regulators ..... \$10.00 (1-hose) ..... \$12.00 (2-hose)  
Valves ..... \$ 4.50 (K) ..... \$ 7.00 (J)

All Prices Are Plus Parts  
SEND YOUR EQUIPMENT NOW  
OR WRITE FOR COMPLETE PRICE SHEET  
DEALER INQUIRIES INVITED

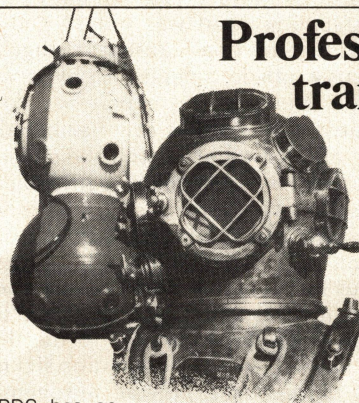
16442-B Gothard St., Huntington Beach, Ca. 92647

KODACHROME

## COLOR SLIDES

PROFESSIONAL QUALITY U/W PHOTOGRAPHY OF  
MARINE LIFE, BIOLOGICAL STUDIES, ECOLOGY, AND  
OCEANOGRAPHY. PLUS SCUBA & SHARK STUDIES,  
EXCELLENT FOR CLASSROOM OR HOME USE.  
SEND \$5.00 (U.S.) FOR SAMPLES AND A DESCRIPTIVE  
"NEW" CATALOG OF OVER 1500 SUBJECTS TO

Visuals, D17 P.O. BOX 381215  
MIAMI, FLORIDA 33138



## Professional Diving School trains you for ALL aspects of deep-sea diving

NAVY DEEP SEA DIVING DRESS (MARK V) BAND  
MASKS, KMB, GAS HATS, MIXED GAS, DIVING  
BELLS, CUTTING & WELDING, SALVAGE,  
COMMUNICATIONS, PHOTOGRAPHY, TENDING & JOB  
PROCEDURES, SEAMANSHIP, MEDICAL ASPECTS.  
CLOSED CIRCUIT TV,  
OFFSHORE OIL RIG WORK,



## Professional Diving School of New York

DIVER TRAINING DIVISION OF INTER-  
NATIONAL UNDERWATER CONTRACTORS  
222 Fordham Street  
City Island, N.Y. N.Y. 10464 / 212-885-0600

Please send me your complete catalog/curriculum  
and school decal. (Out-of-state residents enclose  
\$1.00 to cover postage & handling)

name \_\_\_\_\_  
street \_\_\_\_\_  
city \_\_\_\_\_ state \_\_\_\_\_ zip \_\_\_\_\_  
Telephone: \_\_\_\_\_

PDS has access to the most diverse and sophisticated modern underwater equipment in the world, and the pros to train you with it. To completely prepare you for a professional diving career we offer what we believe is the most comprehensive single program available anywhere - and we offer it for one tuition. Want to find out more? Get our complete catalog and curriculum - don't wait, the future is tomorrow.

Licensed by The New York State Educational Department



## GLENN BEALL INTRODUCES



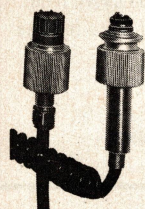
### UTILITY LINES

400-lb. test diamond braided Nylon. Relatively stiff line minimizes tendency to tangle on tank valves, fin straps, underwater projections. Bright white line is non-floating, a must for cave, ice and shipwreck diving. With nickel plated one-hand safety snap, with thumb release. 25 ft. #40HCJ1, \$4 plus 75 cents ship & handl. 50 ft. #40HCJ2, \$5.30 plus 75 cents ship & handl. 100 ft. #40HCJ3, \$7.50 plus \$1 ship & handl.

### Other Glenn Beall Diving 'Musts'

### NIKONOS MOUNTING SYSTEM

A complete system for mounting Light Meter, Camera, Underwater Light. Lets you get it and keep it all together, topside and underwater. The ultimate in convenience and one-hand operation. Fits Nikonos II & III. Complete Mounting System & Shutter Trigger—#27HC6—\$49.50, plus \$1 ship and handl.



### FLASH CONNECTOR COVER

#39HCJ2

For Nikonos. Keeps out dust and moisture, protects "O" ring and delicate contact tips during storage and shipping. Lessens risk of strobe or flash failure. \$2.50 each. Plus 50 cents ship & handl.

### LENS CONTROL EXTENDERS

#38HCJ1



Bring the lens control knobs of the Nikonos camera out to where they are easier to get at. Oversized knobs are ribbed for easy gripping—and etched for writing lens setting. \$6 per set. Plus 50 cents shipping and handl.

### OCTOPUS LOCATOR KIT # 55HC2



For growing number of Octopus Regulator users, we provide Hose Holders and Hose Guards in bright red Dayglow—which remains bright even in great depth and poor visibility. Distinctive color allows the anxious diver to identify the extra second stage regulator. Kit price (1 Hose holder and 2 Hose Guards): \$8.50, plus 75 cents ship & handl.

### WRIST AND NECK LANYARDS

#33HC2, #33HC4



Guard against loss of expensive equipment. Looped Nylon line has nickel plated quick release thumb lever—and Dayglo Red plastic slide for tightening the loop. Wrist Lanyard 11" long \$3.00. Neck Lanyard 20" long \$3.25. Plus 75 cents each ship & handl.

Send check or money order to:

**GLENN BEALL/INDUSTRIES**  
887 South Route 21, Gurnee, Ill. 60031

Illinois residents add 5% sales tax

Send 50 cents for full catalog—refundable

DEALER INQUIRIES INVITED

## Medifacts

ocean bottom. Upon reaching that depth I began to have visual distortions and felt dizzy. I ascended a few feet, assuming I was "narked." Instead of feeling better, I felt as if I was about to black out, and was able to see only a small area directly in front of me. My vision was totally blurred peripherally. I pulled myself to the surface as rapidly as possible, with difficulty as I felt extremely weak. My condition did not improve until I reached the surface. A few minutes afterwards I was strong enough to pull myself into the boat, and ten minutes later my head had cleared completely. I am unable to account for this experience, as I have made many dives to this depth. My dive partners told me later that I was breathing very rapidly on ascent, but I don't remember any difficulty breathing."

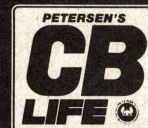
Dizziness and visual distortions are symptoms of vertigo. Divers are especially susceptible because most clues to spatial orientation are reduced or lost underwater. A possible cause is pre-existing damage to the vestibular apparatus in one inner ear. Since April had no previous episodes, that cause is unlikely unless she injured an ear sometime between her present dive and her previous one.

Most common in divers is alternobaric vertigo, due to unequal eustachian tube function with resultant unequal pressure in the two middle ears. This seems to happen more often during ascent, but has been documented during descent, too. But alternobaric vertigo of descent could not have been the sole problem here, for it would have eased during ascent. Another, probably rare cause of vertigo is unequal cooling due to partial obstruction in one external ear canal.

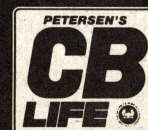
Assuming April was not ill and had good air, the final cause of vertigo that seems worth consideration is hyperventilation. Her previous experience counts against it, yet others saw her breathing fast, and the tunnel vision she describes is typical. Possibly on this particular dive for some reason she was apprehensive or anxious, even subconsciously—that could start hyperventilation, and its vicious circle nature could escalate it.

Multiple small influences can summate to produce vertigo. To the things mentioned, we can add motion sickness, low blood sugar, fatigue, nitrogen narcosis, CO<sub>2</sub> narcosis, and many others. Whatever the cause, major hazards arise from not knowing which way is up and guessing wrong, or from panicky or uncontrolled buoyant ascents. April apparently had an ascent line and was able to use it. I recommend she not dive until found fit by an ear specialist and any other consultants he might suggest. Even then, she should not go deep until progressive shallow dives have been made without incident.

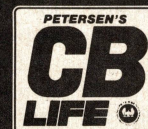
# NOW WE'RE TALKING



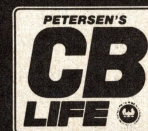
Is produced monthly by  
Petersen Publishing Company, the  
world's leading publisher of special  
interest magazines.



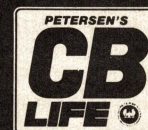
Delivers up-to-the minute, accurate  
technical information for the  
newcomer and the pro.



Brings you new product and  
accessory news every month.



Contains helpful installation how-to's  
on mobile and base units, antennas,  
speakers and accessories.



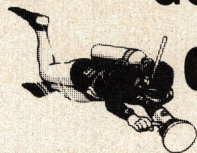
September issue on sale  
August 9 at newsstands  
everywhere.



Petersen Publishing Co.  
8490 Sunset Blvd., L.A., CA. 90069  
Publishers of: Hot Rod, Motor Trend,  
Car Craft, Motorcyclist,  
Guns & Ammo, Skin Diver, Teen,  
Photographic, Hunting, Cartoons,  
Hot Rod Industry News, a variety of  
Specialty Publications, and now  
CB Life.



## GO UNDER with a TR-8 COME UP with a fortune



WHITE'S SH7-D  
1011 Pleasant Valley Rd.,  
Sweet Home, OR 97386

Detect to depths of 100 feet  
with White's AMPHIBIAN  
TR-8. The ultimate in  
underwater electronic mineral/  
metal detectors! Call toll-free  
for location of nearest  
White's dealer.

800-447-4700  
(in Ill., call 800-322-4400)

## Attention Diving Clubs

SKIN DIVER has a special diving club  
rate available for group orders. (Magazine  
will still be delivered to each member's  
home.)

### skin diver

6725 Sunset Boulevard  
Los Angeles, CA 90028  
Attention: Jack Thompson

Please send details on SKIN DIVER's  
club subscription rate.

Club Name \_\_\_\_\_

Your Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ ZIP \_\_\_\_\_

## 47th STREET NIKON, CANON AND IKELITE UNDERWATER PHOTO COMBINATIONS



### Seiko Divers Watch \$129.50

Water resistant up to 500 ft.-Auto

Olympus OM 1 f1.8 w/#5565 Housing	369.95
Sekonic L164 Marine II Underwater meter	79.50
Minolta SRT 200 w/#5560 Housing	289.95
Canon 110 ED w/#5375 Housing	144.50
Canon F-1 w/50mm f1.8 SC lens & #5570 Housing	509.95
Canon EF w/50mm f1.8 SC lens & #5575 Housing	447.50
Konica C35 w/5383 Housing	138.50
Gossen Luna Pro/5056 Housing	112.50
For F1.4 add.	39.95
Nikonos III w/35mm lens	327.50
Hasselblad 500 CM/80mm	
A12, w/#5750 Housing	1099.50
Canon 814E 7.5-60mm f1.4 &	
#5715 Housing	397.50
New Low Life Canon 512 XL 9.5-47.5mm	
f1.2 & #5712 Housing	349.50
Vivitar flash 283 w/#4228 Housing	131.80
Toshiba TM-1 Underwater Flash	114.50
Kodak Pocket 18 w/#5318 Housing	54.50

We carry the full Ikelite line • Free Catalog  
Write for our low, low prices Clip "ad" required

Send your inquiries to: Dept. W



PHOTO INC.  
TEL (212) 260-4410

67 W. 47 Street, New York, N.Y. 10036

Toll Free Orders Only 800-223-5661

A Baltimore reader asks about hyperbaric treatment for hearing loss due to barotrauma. Loss which occurs during descent is usually due to a forceful Valsalva maneuver (blowing against closed nose and mouth) in an attempt to clear the ears, with resulting rupture of the round window. Treatment that involves recompression might make it worse. Instead, surgical exploration is indicated. If hearing loss occurs during or after ascent, however, decompression sickness is assumed and the patient recompressed. In either case, if the treatment failed and there was residual hearing loss, some authorities would consider a trial of hyperbaric oxygen treatments. There is little experience and this subject is very controversial. I would counsel seeking an ear specialist who is also knowledgeable in dive medicine. ➤

## CDC Linkup Course

In a move designed to aid prospective commercial diving students to select a career pattern plan from the beginning, the Commercial Diving Center will now offer specialty course linkup immediately following completion of the basic air/mixed gas deep sea diving, which has a new class starting each month.

Commenting on the plan, Jim Joiner, executive director of the Los Angeles Harbor-based school said, "The new schedule has been in the planning stage for to arrange the courses to permit a new student to select his own career track and register for advanced courses which will link up with the basic course without loiter time between the end of one course and the start of the next."

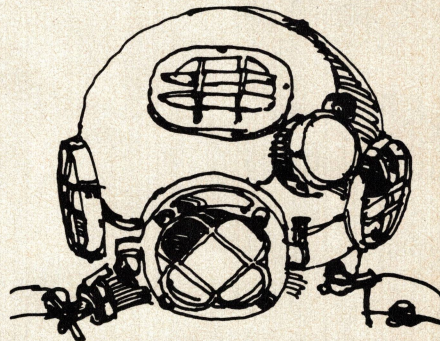
Basic courses starting in February, May, August and November will match up with bell diver and saturation diver courses, for the prospective student planning a career in extreme deep diving.

The air/mixed gas courses starting in March, June, September and December match up with underwater photography/television courses. This course will be taught by Mal Wolfe, instructor at Brook's Institute, Santa Barbara.

Classes starting in April, July, October, and January tie in with the emergency medical technician/diver course, which CDC co-sponsors with the University of Southern California school of medicine. The EMT/diver course is the only such dive medical course endorsed by the Undersea Medical Society.

Adding support to the specialized training concept is the pending Department of Labor, Occupational Safety and Health Administration's new Diving Standards. The new regulations will require the dive contractors to prepare and maintain explicit records of all diving personnel and to certify each diver's training and capability to operate safely and efficiently in the underwater working sites. ➤

# you can be a deep sea diver.



## adventure/high income world travel/challenge

An exciting and lucrative career is waiting for you in commercial deep sea diving. At our facility in Houston you'll train in all phases of commercial diving. We have day and night classes and we are approved for veteran training. Upon graduation, we'll assist with job placement. To learn more about this career with a future, call our Registrar's office or mail the attached coupon today.

Tell me more about a career in commercial diving.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone No. \_\_\_\_\_ Age \_\_\_\_\_

## The Ocean Corporation

Commercial Diver Training Division  
5709 Glenmont, Dept. S (713)661-0033 Houston  
Texas 77081



# IT'S BETTER IN THE BAHAMAS.



There are places where turquoise water is crystal-clear. Where there are barrier reefs with purple sea fans, trumpet fish and staghorn coral that put on an underwater show like you've never seen before.

Where you're just a thirty-minute flight by commercial airline from the coast of Florida. And where you can dive just ten minutes away from where you stay.

The places are Nassau/Paradise Island, Freeport/Lucaya and the easygoing Out Islands of The Bahamas.

Diving packages start at \$99 a weekend or \$189 a week,

per person, double occupancy, including hotel, scuba equipment, air, instruction and other extras.

See your Travel Agent. Or call toll free 800-327-0787. In Florida call 800-432-5594. In Dade County 443-3821.

It's all in The Bahamas. And it's better in The Bahamas.

## BAHAMAS

Nassau/Paradise Island Freeport/Lucaya The Out Islands



## Florida Photo and Ecology Workshops

Holiday Isle Dive Center in Islamorada, Florida, is sponsoring two photography workshops and a three-day eco-study this fall.

On October 4-6, Dr. Walter Goldberg will discuss: how a reef is born; the behavior and eccentricities of reef fish; dangerous and venomous marine animals; microscopic sea life; and give a simplified course in oceanography. Dr. Goldberg is the director of Coral Reef Associates and a professional marine biologist-diver with a doctorate in marine science.

Then, on October 11-14, Holiday Isle will host two big photography workshops taught by Rick Frehsee, nationally famous underwater photographer. The "photorama" consists of a two-day general photography discussion and photographing people, and a two-day study of macro photography.

For additional information, registration forms, and complete brochures on these exciting seminars, contact Ed Armstrong, Holiday Isle Dive Center, Box 482-L, Islamorada, Fla. 33036.

## Baskin in the Sun to Haiti

Alan M. Baskin, president of Baskin in the Sun, has moved his entire dive operation from the Punta Cana Club Hotel, on the east coast of the Dominican Republic, to the Taino Beach Hotel, 31 miles west of Port-au-Prince, Haiti.

Taino Beach Hotel has excellent diving, with visibilities generally between 100 and 150 feet, plenty of healthy coral formations and sponges, deep drop-offs and shallow coral gardens, and water temperatures that are warm enough to never require wet suits, even in winter.

Baskin in the Sun has two compressors and 30 tanks, with ample weights, regulators, fins, masks, snorkels, vests and pressure gauges for sizable groups. Fast dive boats round out the complete service.

There is a mountain spring-fed swimming pool, a fine tennis court, a deep sea fishing boat, sailboats, and other activities for the non-diver.

For further information, write air mail: Baskin in the Sun, P.O. Box 1253, Port-au-Prince, Haiti.

## Anthony's Key

Anthony's Key Resort, Roatan Bay Islands, Honduras, has added six more guest rooms and three tennis courts, as well as expanding the kitchen and meeting hall. It now has 30 guest rooms.

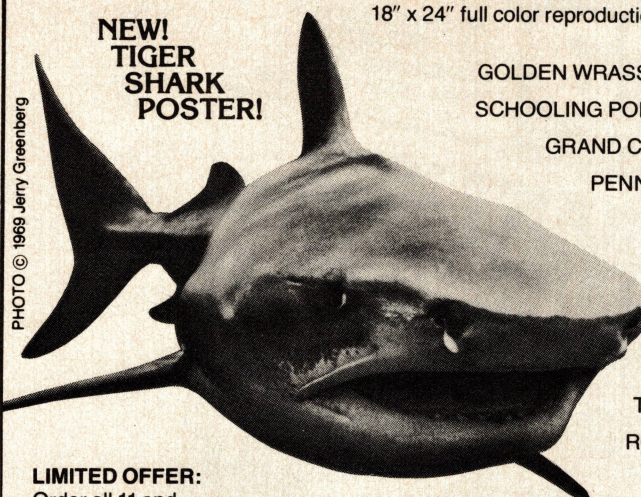
Eighty percent of the divers who visit Anthony's Key are either returning or have had it recommended by a friend.

September and October are among the best months to visit the resort because the weather is superior then. For more information contact Pat Koch, P.O. Box 18412, Dallas, Texas 75218.

## Jerry Greenberg's SEA POSTERS

**NEW!  
TIGER  
SHARK  
POSTER!**

PHOTO © 1969 Jerry Greenberg



18" x 24" full color reproductions suitable for framing.  
(Mark your choice)

- GOLDEN WRASSE AND GORGONIA ☐
- SCHOOLING PORKFISH AND DIVER ☐
- GRAND CAYMAN U/W GUIDE ☐
- PENNEKAMP PARK MAP ☐
- HAPPY DOLPHINS ☐
- LIVING CORALS ☐
- REEF ANGELS ☐
- SHARKS! ☐
- TIGER SHARK ☐
- THE RADIANT REEF ☐
- ROAMING THE REEF ☐

**LIMITED OFFER:**  
Order all 11 and  
receive free bonus gift  
"The Living Reef" giant poster

**Any 3 for \$10.00  
Any 6 for \$15.00  
All 11 for \$25.00**

SEAHAWK PRESS 6840 S.W. 92nd Street, Miami, Florida 33156.

## WHAT DO YOU KNOW?

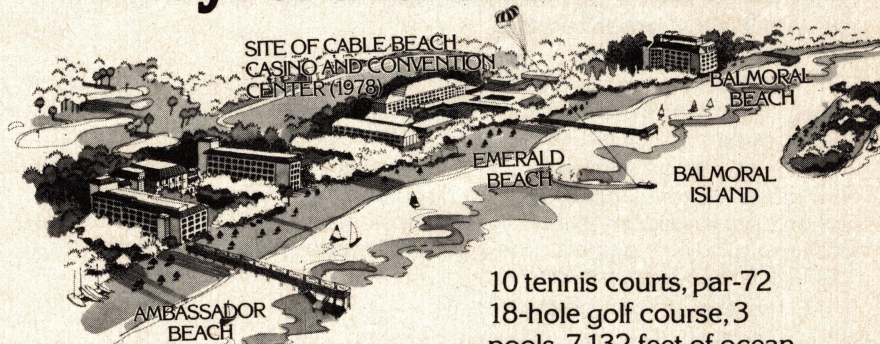
about boat diving techniques  
and procedures?

Test yourself in Sept. in  
**skin diver**

## DIVERS! DIVERS!

125 Commercial Diving Companies  
need divers. For complete list send  
\$3.00 to: **SEA TRAVEL**  
Box 1283, Far Rockaway, NY 11693

## 7 ways to a lovelier vacation.



We have 7 exciting  
Bahamas vacation  
packages—from tennis to  
scuba diving to golf to  
honeymooners to gourmet  
to family to just  
plain great—all wrapped  
up in one colorful  
brochure. Send for it  
now. And find out all about  
our 7 great packages.

And find out about our

10 tennis courts, par-72  
18-hole golf course, 3  
pools, 7,132 feet of ocean  
beach, 14 restaurants and  
lounges, 1,000 guest  
rooms, 15 meeting rooms  
for groups up to 1,000. All  
within 10 minutes of  
downtown Nassau and the  
airport.



**The Great Resorts  
of The Bahamas**

Ambassador Beach / Balmoral Beach / Emerald Beach  
Nassau, Bahamas  
Other Great Resorts: Lucayan Harbour, Freeport / Lucaya

Where you get all the advantages of three great resorts, simply by staying at one.

See your Travel Agent or call toll-free 1-800-327-0787. In Florida, toll-free  
1-800-432-5594. In Miami 443-3821 for reservations or more information. Or write  
the Great Resorts of Cable Beach, 255 Alhambra Circle, Coral Gables, Florida 33134.





# Petersen's CB LIFE is your good buddy.

Every CB enthusiast needs a "GOOD BUDDY"—that's why Petersen's CB LIFE has become the most important publication for CB owners.

Order your subscription today to Petersen's CB LIFE for 1 year at 50% off the regular newsstand rate and receive a copy of HOT ROD Magazine's CB RADIO BOOK absolutely free.

IT'S FREE—When you subscribe today!

HOT ROD Magazine's CB RADIO BOOK—packed full of the latest how-to-tips, from installing your CB to speaking the colorful terms. It's a special offer for all of Petersen's CB LIFE Magazine's "GOOD BUDDIES".

Each month, Petersen's CB LIFE provides every "GOOD BUDDY" with the latest editorial coverage on technical advances, product evaluations, personality interviews, how-to tips on specialized installation procedures, a buyer's guide on new products, and much more to get you, "GOOD BUDDY," on the air!

Use this coupon below, today!

**YES!**

I would like to take advantage of this special offer. Please ☐ enter or ☐ extend my subscription to Petersen's CB LIFE Magazine for 1 year at **50% OFF** the regular newsstand rate and send my **CB RADIO BOOK** at no additional cost. My \$7.50\* payment is enclosed.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

\*U.S., Territories & Military only. Other countries add \$3 for postage. Offer expires October 31, 1977. (Please allow us up to 60 days to get the premium and the first copy of a new order into the mail. Watch for them!)

SDG83

**Petersen's CB LIFE**

6725 Sunset Blvd., P.O. Box 2522 • Los Angeles, CA 90028

## TEXAS CHALLENGE SOUTH PADRE ISLAND

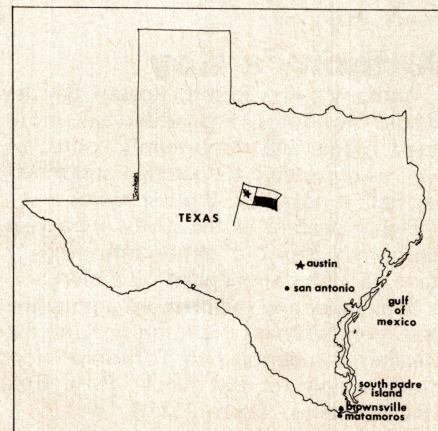
By Charles C. Ross

South Padre Island is the southern tip of a sand spit that extends from Corpus Christi, Texas, to Port Isabel, Texas. As you know, the Texas Gulf Coast is not known for its gin-clear water, nor is the area endowed with majestic coral reefs for you to explore. But, if you are a diver who is looking for a new, challenging place to dive with an abundance of sea life, South Padre Island has something to offer you.

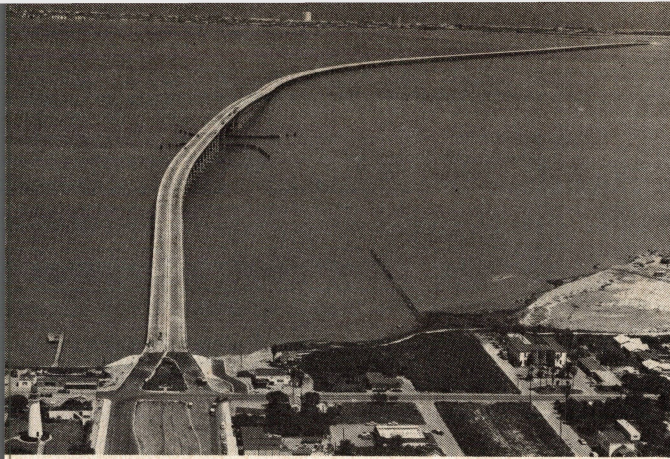
Your biggest challenge will be arriving at South Padre Island when the water is clear. The best months for diving are June, July, and August, although the water is occasionally clear as early as March. The winter months are not good for diving after the first cold front drops the water visibility to zero.

The jetties that form Brazos Santiago Pass are the most rewarding places to dive on the island. The two granite jetties outlining the pass extend almost a mile into the Gulf of Mexico. However, Hurricane Beulah partially destroyed the offshore ends of the granite structures in 1967. Now those boulders are strewn across the bottom like building blocks from a child's hand. This underwater rock garden, in 20 to 35 feet of water, is home for a variety of fish such as sheepshead, spotted jewfish, tarpon, ling or cobia, spadefish, drum, mangrove snapper, Spanish mackerel,

*South Padre Island is the tip of a sand spit. It extends from Corpus Christi to Port Isabel.*







*From the air, the magnitude of Texas' newest and longest causeway becomes apparent. The new skyline at South Padre Island can be seen in the background. The island offers a challenging place to dive and an abundance of sea life.*

photograph by Author

speckled trout, and countless varieties of small fish.

A diver can successfully dive from the jetties, or rent a small boat and anchor, off either side or the end. Boats can be reasonably rented on the island or in the small town of Port Isabel on the mainland.

Many times I have anchored off the end of the north jetty and dived in Gulf waters that teemed with sea life. On one dive my partner, John, and I were completely surrounded by sheephead ranging in size from one pound to about seven pounds.

John and I swam up over the next sea urchin-covered boulder and were amazed at the sight. We were looking down at a small herd of six-spotted jewfish. We swam closer, and the big, freight-car-like fish began to separate, some seeking shelter among the rocks. I approached one of the larger fish; he was warily watching my arrival from his small patch of sandy bottom. When I was about four feet from the fish, which probably weighed over 300 pounds, he turned away from me and made that unforgettable boom that jewfish make. I was suddenly greeted by a strong surge of sand and water from his tail. The current created by the fish was so strong it pushed me backward.

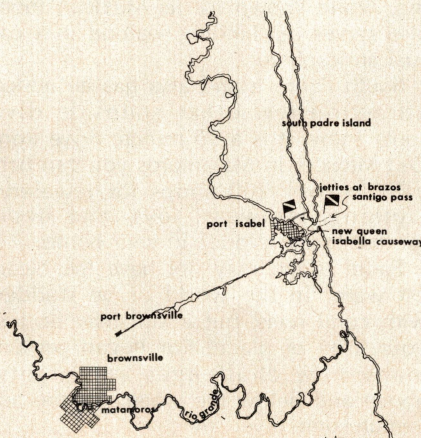
After the fish vanished, we continued our swim over the underwater rock garden. The sights were majestic. The yellow sea whips with their holdfasts in the rocks were reaching for the sun-splashed surface above. Purple sea

fans were gently swaying in the warm Gulf current. We saw several patches of coral attached to the rocks, and in the crevasses we found spiny lobster and conch shells. A school of spadefish swam by in formation, and sea robins darted across the surfaces of the rocks.

We swam the entire width of the granite rock reef and onto the rippled sandy bottom out away from the jetties. The rippled bottom was literally covered with sand dollars and studded with starfish. A diver could easily pick up a bucket full of live sand dollars in a matter of minutes. We also noticed several washtub-size stingrays who were content to lie on the bottom and watch with suspicious eyes as we silently glided over them. As we turned and started back toward the rocks, John spotted one of the largest and most beautiful sea anemones I have ever encountered. It stood about four inches off the bottom and was in full violet bloom, awaiting its unsuspecting prey.

Once back in the rock garden, John signaled to me to see the mangrove snapper as they reluctantly ventured from their rocky homes to investigate our presence. I noticed my air pressure gauge reading lower, so I signaled John and we started a slow circular ascent. We were about 15 feet from the surface when we were surrounded by what appeared to be large, darting silver bullets. It was a school of about 20 tarpon measuring to seven feet. Tarpon underwater have to be one of the most thrilling sights a diver can see. They are a large, handsome, sleek fish. Their dark eyes and slightly turned-up mouth make them distinguished-looking. The school of tarpon surrounded us and darted in and out of our visibility range. At times it appeared they would collide with us, but at the last instant they would quickly maneuver around us.

Swimming up through the tarpon, we boarded our boat and contemplated going across Brazos Santiago Pass to dive off the south jetty. This jetty is practically virgin territory for divers, because it is not easily accessible by land. It is also plagued by rougher water than the north jetty because the wind is predom-



## DOLPHIN DIVE CENTER

MILE MARKER 103 JUST NORTH OF PENNEKAMP OFFERS 6&42 PASSENGER BOATS, TWICE DAILY NATIONAL CERTIFICATION & CHECK OUTS, AIR CARDS, GROUP & CLUB RATES, PRIVATE ISLAND CHARTER SALES, SERVICE, RENTAL AND FOOD & MOTEL DISCOUNT CARDS. TRULY A (COMPLETE) AND FRIENDLY DIVE CENTER. THE MELLOW MEN OF THE SEA INVITE YOU TO CALL OR FILL OUT THE COUPON BELOW FOR COMPLETE INFORMATION. OUR 24 HOUR (HOT) LINE IS OPEN NOW, 305-451-1381

**DOLPHIN DIVE CENTER**  
P.O. BOX 1936  
KEY LARGO, FLA. 33037

NAME \_\_\_\_\_  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_  
STATE \_\_\_\_\_ ZIP \_\_\_\_\_



## • SCUBAPRO® DIVING EQUIPMENT

### • Subsea

### • OCEANIC PRODUCTS

### • SEACOR

### • Nikonos

### • U/W PHOTOGRAPHIC EQUIPMENT CAMERAS, STROBES AND ACCESSORIES

### • WETPHONE A SOUND WAVE SYSTEMS UNDERWATER COMMUNICATION

### • ALFTER PORTABLE AIR COMPRESSORS

Mail Order Purchase of Life-Support apparatus must be accompanied by proof of certification.

MAIL ORDERS SHIPPED PROMPTLY

SEND \$2.00 FOR CATALOGS & PRICES

• Sales • Rentals • Air • Photography • Diving Vacations

## SUNLAND SPORTS DIVE SHOP

8677 WILSHIRE BLVD., BEV. HILLS  
CALIF. 90211 U.S.A. (213) 652-4990



# Haiti



**French gourmet food**  
Spectacular mountains and beaches  
Virgin diving  
A first-class vacation resort  
Primitive African culture  
Haiti: a new destination



Operated by **Divers Unlimited**  
Dave Inman • Phil Chalker  
Reservations through

**Oceaneers**  
Dive Tours, Inc.

5555 Hollywood Blvd., Hollywood, Florida 33021  
Phone toll free 1-800-327-3810 In Fla. 305-983-0017  
Haiti: 8 days 7 nights \$389 plus air fare

## DIVERS

During World War II there were a great many ships sunk off the U.S. Coast. The Navy had top secret charts showing the name, location, and other information, such as the depth, tonnage, and condition of the wrecks. Since the war these charts have been a well kept secret of a handful of commercial fishermen. Most of the wrecks are not shown on regular charts since they don't present a threat to navigation. But they certainly offer a bonanza to divers and fishermen. These are reproductions of the actual wreck charts with decorative and authentic historical value.

WC-1106—Bay of Fundy to Cape Cod	\$10
WC-1107—Georges Bank and Nantucket Shoals	\$10
WC-1207—Massachusetts Bay	\$10
WC-1108—Approaches to New York, Nantucket Shoals to Five Fathom Bank	\$10
WC-1109—Cape May to Cape Hatteras	\$10
WC-1110—Cape Hatteras to Charleston Light	\$10
WC-1111—Charleston Light to Cape Canaveral	\$10
WC-1112—Cape Canaveral to Key West	\$10
WC-1007—Gulf of Mexico	\$10
WC-9928—South Atlantic and Caribbean, list of wrecks only (charts not available). Lists over 100 wrecks and information	\$ 6

Send check or money order payable to:

**WRECK CHARTS**  
P.O. Box 2318, Dept. C7  
New Smyrna Beach, Florida 32069

## South Padre Island

inantly out of the southeast, making it a less desirable place to dive. Abandoning the idea, we decided to go back toward Port Isabel and dive around the new \$12 million Queen Isabella Causeway at the mouth of the Laguna Madre.

The causeway which connects South Padre Island to the mainland is also an excellent dive spot. The water averages ten feet in depth, which makes for easy snorkeling. I donned my mask, fins and snorkel and entered the water. Swimming under the causeway, I noticed we were again intruding on a large resident populace of various fish. Three feet below the surface, the concrete pilings are covered with clusters of large oysters. Because the Laguna Madre is practically pollution-free, the oysters can be eaten without fear of illness. I returned to the boat to get a plastic bag and my knife so I could collect some. Underwater, oysters are much easier to open than they are on land. They have a small opening between their two shells through which they circulate water and extract their food. The opening is just large enough for a diver's knife to penetrate. Knife inserted, you pry the top shell away from the bottom shell and remove the meat. In a short period of time I had collected over a quart of large oysters.

Content with our day's diving, we decided to enjoy some of the topside pleasures of South Padre Island. The island has become Texas' most popular and fastest growing beach. Beautiful condominiums have been raised in the past five years. The Tiki, a beautiful Polynesian styled condominium, the Bahia Mar, and the soon-to-be-completed Holiday Inn are among the island's nicest.

Hotels in the economical price range are the Miramar, Sandy Retreat, El Padre, and the Surf Motel, all on the beach.

Padre Island also has restaurants to prepare your catch. Las Ventanas, at the Bahia Mar resort, features a most unusual nautical decor and excellent sea food. The Jetties Restaurant is also noted for its seafood served overlooking Brazos Santiago Pass. The Palmetto Inn, while known for its Mexican food, also serves outstanding seafood in a casual atmosphere.

South Padre Island also has an added attraction few other stateside dive spots enjoy. It is a 30 minute drive from Old Mexico. In Matamoros you can bargain in over 200 shops for jewelry, clothing, footwear, toys, and items for that Spanish touch in your home.

Padre Island may not have the clearest water in the world or be studded with coral reefs, but it still may be just your kind of place. For it can present many new challenges and sights, above and below the water, for the adventuresome diver. >



**FLORIDA'S CRYSTAL RIVER**  
Where you can swim and play with rare and endangered **MANATEES**

**skin diver** takes you for a fun dive in the September issue





# Make a splash coming and going!

Make a *splash* with SKIN DIVER's specially designed T-Shirt. It's FREE when you subscribe to SKIN DIVER for 1 year.

Be admired the next time you go diving with SKIN DIVER's T-Shirt. It's 100% cotton, Tan colored, emblazoned with 2 colorfast diving messages front and back, in sizes Small, Medium, Large and X-Large.

This is an exclusive offer from SKIN DIVER, the unchallenged leader in the sport diving field. Each month, we cover every facet of diving from land to sea. The latest innovations in diving equipment. Where to go and much more!

So, get into SKIN DIVER and put one of our splashy T-Shirts on absolutely FREE.  
Subscribe today and order your SKIN DIVER T-Shirt!

SDH89



Mail this coupon with your payment to:

**skin diver**

6725 Sunset Blvd., P.O. Box 3295  
Los Angeles, CA 90028

YES! Please ☐ enter or ☐ extend my subscription to SKIN DIVER for 1 year (12 issues) at the regular rate, and rush my SKIN DIVER T-Shirt at no additional cost, right away!

My \$10.95\* payment is enclosed. Please check size desired:

☐ S ☐ M ☐ L ☐ XL

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

ZIP \_\_\_\_\_

\*U.S., Territories & Military only. Other countries add \$3 for postage. Offer expires October 31, 1977. (Please allow us up to 60 days to get the premium and the first copy of a new order into the mail. Watch for them!)

AVAILABLE IN LIMITED QUANTITIES AND ONLY THROUGH SUBSCRIPTION PURCHASE.



# United States Virgin Islands

Photo: Bret Gilliam, V.I. Divers, Ltd.





# What a life.

Diving in the United States Virgin Islands. Excellent visibility (this photo taken in a black coral forest at a depth of 95 feet). Spectacular dive locations reached from the beach as well as a boat. Well-organized dive centers to get you there and back. Lots of place-hopping and people-meeting at night. Fine restaurants, too. Write directly to the centers listed here for information on diving in their area.

## St. Croix:

Caribbean Sea Adventures, SD4,  
Kings Wharf, Christiansted 00820  
Tel: (809) 773-5922

Do It Fluid Tours, SD4,  
Box 3234, Christiansted 00820  
Tel: (809) 778-0882

Mar y Sol Divers, SD4,  
10 Strand Street, Frederiksted 00840  
Tel: (809) 772-3701

Oceanic Enterprises, SD4,  
Kings Alley Dock, Christiansted 00820  
Tel: (809) 773-6015

Pressure Ltd., SD4,  
Box 3612, Christiansted 00820  
Tel: (809) 773-2678

St. Croix Scuba Center, SD4,  
Caribbean Reef Club, Pelican Cove 00820  
Tel: (809) 773-2237

VI. Divers, Ltd., SD4,  
PanAm Pavilion, Christiansted 00820  
Tel: (809) 773-6045

St. John: (Zip Code 00830)  
Caneel Bay Plantation, SD4,  
Caneel Bay Tel: (809) 776-6111

Cinnamon Bay Water World, SD4,  
Box 120 Tel: (809) 744-8282

The Dive Shop, SD4,  
Box 161, Cruz Bay Tel: (809) 776-6256

St. Thomas: (Zip Code 00801)  
Aqua-Action Inc., SD4,  
Wintberg Peak Tel: (809) 775-3275

Bolongo Bay Beach & Dive Club, SD4,  
Box 3381 Tel: (809) 775-1800

Frenchman's Reef Undersea Centre, SD4,  
Charlotte Amalie Tel: (809) 774-8500

John Hamber Aqua Lung Center, SD4,  
Box 2432 Tel: (809) 775-0755

Lagoon Undersea Center, SD4,  
Red Hook Tel: (809) 775-1935

Virgin Islands Diving School, SD4,  
Box 1704 Tel: (809) 774-8687

Joe Vogel Diving Company, SD4,  
Box 7322 Tel: (809) 774-2321

## United States Virgin Islands

St. Croix • St. John • St. Thomas

© 1977 United States Virgin Islands Division  
of Tourism, Box 1692, St. Thomas 00801.

## New Cayman Company

Seasports is a new company operating in the Cayman Islands which offers a variety of planned water activities for visitors. The organization has two 36 foot trimarans, one 31 foot trimaran, and a 19 foot ski boat and is prepared to handle any watery desire — from sailing, fishing, diving and water skiing to beach picnics.

Created by a group of Caymanians and Americans, all of whom are experienced skippers, Seasports specializes in small parties and tailors programs to fit the clients' needs. The "Mafia Pacific," for example, is limited to four persons and features a home-cooked spaghetti dinner with wine and cruising under Cayman stars. The price is \$15 per person, and reservations are a must.

A Caymanian beach picnic is a unique experience for any visitor. The day starts at 9:00 a.m. with a sail into North Sound. For the next five or six hours, there's snorkeling, fishing, shelling, sunning and cruising, topped by a luncheon caught by the captain and crew and cooked, Caymanian style on the beach. Lunch usually consists of lobster (in season), conch, and fresh fish. Cost is \$17 per person (minimum of six in party, which Seasports will make up), plus minimal charges for masks, fins, snorkel, fishing equipment and underwater camera, if desired.

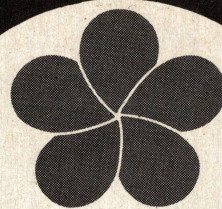
Seasports vessels are located at Galleon Beach Hotel, Beach Club and Cayman Sands Village, with their booking office at the latter. Write P.O. Box 1516, Grand Cayman, B.W.I. ☛

## Ocean Divers, Pennekamp

Ocean Divers Inc., has recently acquired the Carl Gage Diving Center in Key Largo, Fla. In addition to being a retail outlet for most major brands, the center serves as a classroom for instruction in scuba certification (SSI, YMCA, PADI, NAUI) and the reef ecology dive. The latter is a new and comprehensive program that involves coral and fish identification, reef formation and the community of reef fishes. The facility also has group and charter cookouts, and has the largest air system in the Keys with 24,000 cubic feet of storage.

Ocean Divers Inc., now has two dive shops and a 65 ft. twin diesel dive boat, the *Captain Crunch*. *Crunch*, one of the largest and most spacious boats that serves Pennekamp State Park, is outfitted with a 14 ft. dive platform and a Zodiac.

Ocean Divers Inc. offers tour packages that include diving with motel/campground accommodations. For further information write: Ocean Divers Inc., Box 1113, Key Largo, Fla. 33037. ☛



**When  
you come to  
Mauna Kea,  
bring  
your very best  
dreams...**

Of scuba diving at Mauna Kea on the Northern Kohala Coast, the greatest in Hawaii. Of the blue Pacific and marvelous scuba diving amid rainbow coral reefs. Of golden beaches, great golf, swimming, snorkeling, catamaran sailing, sunsets, and quite fantastic cuisine. And of horseback riding on 331,000 acres.

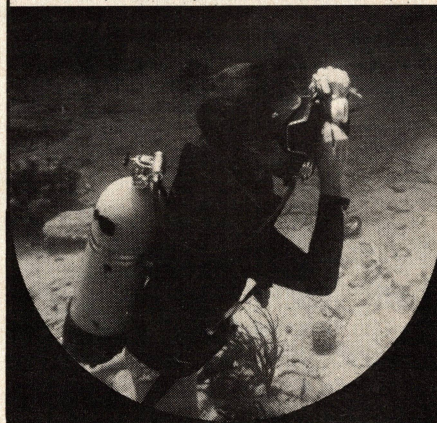
And of Mauna Kea's *Scuba Special* which, from April 10 to December 20, 1977, gives you 7 days, 6 nights including breakfasts, dinners, scuba lessons, all diving gear, and N.A.U.I. instructor-escorted trips aboard the new 58-foot catamaran, ALII NUI, designed specifically for diving, for just \$470 per person double, \$425 per person triple, or \$755 single.

Let Mauna Kea and the diving team of the ALII NUI make all your dreams come true. Ask your travel agent or any LRI, Inc. (Loews Representation International) office.

**MAUNA  
KEA  
BEACH HOTEL**

On the Big Island of Hawaii

Operated by Rockresorts, Inc.





## Experience the Belize Barrier Reef

Jet from New Orleans or Miami in the morning and be barefoot in the sand streets of Ambergris Caye that afternoon. Beachfront rooms overlooking the reef, three incredible Caribbean style meals a day & full modern diving facilities... this is Ambergris Lodge.

You'll be diving the coral canyons of the world's second largest barrier reef. Clear, clean waters, a myriad of marine life, and wonderful people.

Come dive with us.

Group rates, Blue Hole trips and sailing cruises available.

For more information contact:

Ambergris Lodge  
P.O. Box 5466  
Richardson, Texas 75080  
(214) 690-4976



## DIVER'S PASS TO ADVENTURE

**SCUBAMERICA**  
DIVING ADVENTURES

Quality Diving Tours

### Destinations

Micronesia—Palau  
Truk Lagoon—  
Hawaii—  
Fiji—  
Red Sea—Israel  
Galapagos  
Haiti  
Grand Cayman  
Roatan, Honduras  
Mexico

### Departures

Write To  
Art Travers  
For  
Brochures  
and Trip  
Schedules

ALL TRIPS  
FULLY  
GUIDED

Specially Priced Christmas Tours

**Poseidon  
Ventures**  
Tours

359 San Miguel Dr.  
Newport Beach  
Calif. 92660  
714-644-5373

## Wreck Dive Long Island

On The "Honest Archie" (516) 826-8888  
59 ft. steel boat: twin diesels; 1040 H.P.; full electronics!!  
Wreck dives from \$15.00. Advanced instruction available.  
Special lobster dives and night dives. CG approved.

Subocean Ventures Inc. 2608 Merrick Road  
Belleme N.Y. 11710



## DIVE the WORLD

Cayman Islands • Australia  
Tahiti • Cozumel • Galapagos  
Bonaire • Philippines • Fiji  
Virgin Islands • Red Sea  
Hawaii

12 years experience—recognized leader in the field of vacation diving trips — Over four thousand highly satisfied divers — All programs thoroughly researched — Professional dive master leaders. Write to Dewey Bergman or Carl Roessler for diving travel brochures.



680 BEACH ST./SUITE 340/WHARF SIDE  
SAN FRANCISCO, CALIFORNIA 94109  
TELEPHONE (415) 771-0077

TRAVEL  
SERVICE,  
INC.

## Spyglass Hill

RESORT & CLUB  
ROATAN, ISLA DE LA BAHIA  
REPUBLIC OF HONDURAS, C.A.



### WHY PAY EXTRA TO DIVE!

\$288.40 gets you 7 nights and 6 full days of diving on Roatan's famous barrier reef. \$288.40 per person dbl. occup. includes luxurious villa accommodations. 3 delicious meals daily-and a fresh-water swimming pool.

Our 40-foot steel, twin-deisel dive boat is your magic carpet to underwater adventures you can only experience here. We have 50 tanks-and the largest compressor in the Caribbeans. Explore blue-holes, tunnels, drop-offs and coral gardens. Gin-clear water, and the friendliest fish you've ever met. Fantastic? Incredible!

For information & reservations  
wire or write to above address or

### SPYGLASS HILL RESORT

c/o ROSEOF AFFILIATES

U.S.A. 630 N. Western

Address: Lake Forest, Illinois 60045  
Telephone: (312) 234-2222



## FANTASTIC Florida Keys Diving

- Complete diving facilities
- Free air to guests—Package tours
- Rental Equipment — Boats
- Family units—Villas-Apt.-A/C-TV
- Pool-Lessons-YMCA-PADI Instr.
- Boat ramp — Dock — Basin

(305) 664-4555

Free Brochure—Box 575 S.D. Islamorada, Fla 33036

## VIRGIN ISLANDS

## Sail & Dive CRUISE



A week of sailing and diving aboard a luxurious 44' sailing yacht, in some of the most beautiful waters you'll ever see. The boat is completely equipped with tanks and an on-board compressor. Cruise includes: All food and drink, unlimited diving led by one of the area's foremost Capt./Dive Masters.

7 DAYS FOR  
\$400

FOR A FREE BROCHURE WRITE

### undersea centres

P.O. BOX 7100 ST. THOMAS  
U.S.V.I. 00801 PH. (809) 774-3392

TAKE IT FROM ME!

## CAT ISLAND IN THE BAHAMAS HAS SUPER DIVING



2 Hotels to choose from, 3 tank dives per day, night dives, wall dives, unspoiled reefs and beaches, remote island atmosphere, and all they shoot is film!

For reservations contact U.S. Rep.  
Al Seissler, 2182 Golf Course Dr.,  
Reston Va. 22091  
Tel. (703) 860-0770

## Coral Lagoon Diving Resort

KITCHEN—DOCKS—COLOR TV  
POOL—TENNIS



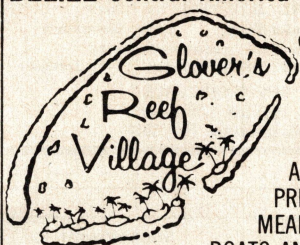
TAME PORPOISES  
DIVE SHOP  
REEF TRIPS

Fast 30' 6 Pass. Boat, and  
for clubs, New, Fast 20 Pass.  
Boat (\$10 up-½ Day)

MARATHON 33050  
FLORIDA KEYS



## BELIZE Central America



Virgin diving  
on a Caribbean  
atoll

6 Days  
\$295

ALL INCL.  
PRIVATE CABIN  
MEALS, TANK, AIR  
BOATS AND GUIDES.

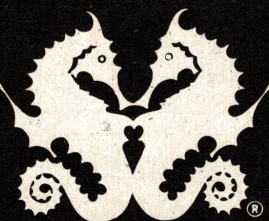
SIX DAY DIVING CRUISE ON 50FT. DIESEL SAILING SLOOP "CHRISTMAS BIRD," everything incl. \$395. Glover's and Lighthouse coral atolls, Blue Hole, excellent diving and snorkeling, tropical island exploring, or design your own cruise for group of 4 to 6.

ROBERT F. MARK U.W. ARCHAEOLOGY COURSE August 20th to Sept. 2nd, 1977. John Lidington photography course July 30th to Aug. 12th. 13-day course for \$900 includes resort stay and 4-day cruise.

WRITE AIR MAIL to: Lomont Enterprises, Ltd. Box 563, 7 S. Foreshore, Belize City, BELIZE, Central America Phone: 2548 (use air mail envelope).

## Virgin Islands

Live aboard the superb 75-foot "Virgin Diver." Magnificent coral gardens, wreck of the "Rhone," spectacular night diving. Excellent food and comfortable quarters. Anchored always over your dive site. Unlimited diving. Scheduled 7 day diving cruises every month. Exclusive group charters available.



**See  
&  
Sea**

680 BEACH ST./SUITE 340/WHARFSIDE  
SAN FRANCISCO, CALIFORNIA 94109  
TELEPHONE (415) 771-0077

TRAVEL  
SERVICE,  
INC.



56' luxury  
trimaran

## MISTY LAW

Sail and dive cruises throughout the  
BRITISH AND AMERICAN VIRGIN ISLANDS  
13 DAYS, 12 NIGHTS—\$690

### What you get:

- 2 berth cabins with private bathrooms
- All equipment and air
- Professional instruction/guiding
- 3 good meals per day
- Free liquor, beer and wine with dinner
- Fast, exciting sailing; beautiful night stops and deserted beaches
- Better and more varied diving than you could hope to get land-based
- Plenty of interest for non-divers too

We run cruises to suit all standards and can also quote for group booked tours of any length throughout the Caribbean.

Trimarine Boat Co., Ltd., Homeport, St. Thomas  
U.S.V.I. 00801 Or phone: (809) 774-5630

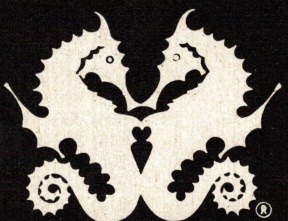


Where to go-How to get there-What to do



## Dive Cayman

Live aboard Paul Humann's "Cayman Diver," the best equipped diving cruiser in the Caribbean: air conditioned quarters, gourmet meals. Exotic diving on virgin reefs: photographers's paradise, night diving. Scheduled 7 day diving cruises every month. Exclusive group charters available.



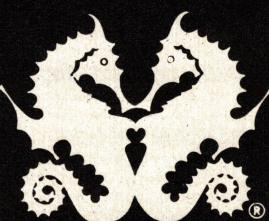
**See  
&  
Sea**

680 BEACH ST./SUITE 340/WHARFSIDE  
SAN FRANCISCO, CALIFORNIA 94109  
TELEPHONE (415) 771-0077

TRAVEL  
SERVICE,  
INC.

## Philippines

Live aboard the magnificent 102 foot "Sea Quest." Exotic diving on remote and primitive offshore islands. Superb food, photographer's dream, the world's richest marine life. Scheduled 17 day cruises. Exclusive group charters available.



**See  
&  
Sea**

680 BEACH ST./SUITE 340/WHARFSIDE  
SAN FRANCISCO, CALIFORNIA 94109  
TELEPHONE (415) 771-0077

TRAVEL  
SERVICE,  
INC.

## Gone Down Lately AT PENNEKAMP?

Dive aboard 48'  
GOOD TIME CHARLIE  
... We carry O<sub>2</sub> For your safety  
... Open Water Checkouts

Key Largo's Largest Repair Center  
Hydrostat—Tumbling—Valves  
Regulators—Cameras—Strobes

Write for Color Brochures

BILL CRAWFORD'S

## TROPIC ISLE DIVE SHOP

P.O. Box 755-B Key Largo, FL. 33037  
Mile 103.5 Tel. 305-451-1063

## Dive Cozumel

Stay at the Cabanas del Caribe, Cozumel's finest diving resort. Beautifully situated on sandy beach. Excellent cuisine. First and best divers' headquarters. 12 years experience with diving groups to famous Palancar Reef.



**See  
&  
Sea**

680 BEACH ST./SUITE 340/WHARFSIDE  
SAN FRANCISCO, CALIFORNIA 94109  
TELEPHONE (415) 771-0077

TRAVEL  
SERVICE,  
INC.

## SMALL HOPE BAY LODGE ANDROS ISLAND, BAHAMAS



"WANT HARMONY  
IN YOUR DIVING??"

Then come dive with us  
on the

ANDROS BARRIER REEF

\$280 one week

Write airmail for FREE brochure and goodie coupon to:

"The Piano Man"  
P.O. Box N1131, Nassau, Bahamas  
phone: 809/328-2014

## THE DIVING TREASURE OF THE FABULOUS FLORIDA KEYS.

Discover the fabulous reefs  
of the Atlantic & Gulf.



New main building and refurbished villas, each with color TV. More than 1,000 feet on the Gulf...private sandy beach, swimming lagoon, salt and fresh water pools, tennis courts, shuffle board, charter boats, bonefish guide, boat ramp. Gourmet restaurant, cocktail lounge & entertainment. Rates are modest. Only a 110-mile drive from Miami.



3 DAYS-2 NIGHTS \$49\*  
4 DAYS-3 NIGHTS \$69\*  
\*per per. dbl. occ. 30 of 80 rooms  
April 26 thru Dec. 15, 1977  
INCLUDING BREAKFAST & DINNER DAILY

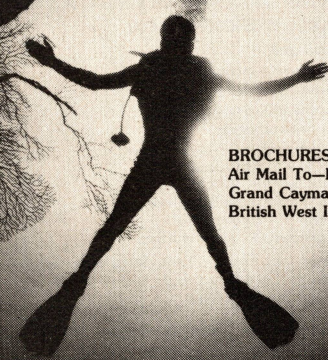
## Buccaneer Lodge

P.O. Box 428 Marathon, Fla. 33050  
U.S. Hwy. 1 at Mile Marker 49 - Ph. (305) 743-9071  
Pieter & Shirley Bakker Owner-Hosts  
OR SEE YOUR TRAVEL AGENT



**GRAND CAYMAN'S FINEST DIVING RESORT**

**SPANISH BAY REEF**



BROCHURES:  
Air Mail To—Box 800  
Grand Cayman  
British West Indies

**ABBOTT HIGHSCHOOLS**

We operate 2 Accredited family-style boarding highschools, Co-Ed, grades 7-12. All aspects of Marine Science are the big extras at Key Largo, and all aspects of Earth Science supplement the curriculum at our new Solar Energy Campus in the Jemez Mountains of New Mexico.

We also offer Sail-Dive programs in the Caribbean and Landcruise Dives 4-Wheeling down Baja into Mexico. Teachers aboard all fully accredited trips. You Can Choose Both Campuses and Either Trip for the Price of One Academic Year, Or a Five Week Trial at Either Campus for only \$685.00 until offer expires.

Small challenging classes; lots of help as needed; Free Horse-back, Back-pack, Ski-tour, Water-ski, Sail, Scuba are only a few of our extras.

**ABBOTT SCHOOLS AND CAMPS**  
P.O. Box 285 S.D., Key Largo, FL 305-245-4610

**GREATEST WALL IN WESTERN HEMISPHERE**

**LITTLE CAYMAN WALL**... Dive in waters that will spoil you for diving anywhere else in the world, 200 ft. visibility, truly virgin reefs, wrecks, drop-offs, archways & a fantasia of marine life. Buccaneer's Inn on Cayman Brac. New A/C, carpeted rooms, excellent food & Calypso. Trips up bluffs to ancient pirate's caves the way Columbus found them centuries ago. Complete dive shop & boats.

**VERY REASONABLE** weekly trips, 52 weeks a year direct from St. Petersburg to Cayman Brac via Red Carpet Flying Service/Trans-Island Airways. Free brochure.

Write **LITTLE CAYMAN ADVENTURES**, BOX K-85, LAND O LAKES, FLORIDA 33539

**FLORIDA KEYS**  
and the  
**BAHAMAS**  
DIVE BOAT "ANNIE UP"  
P.O. Box 1335 Key Largo, Florida 33037  
**FREE BROCHURE**

**JAMAICA**

- COTTAGES
- VILLAS
- ROOMS
- DORMITORY

DIVE WITH EXPERIENCED GUIDES IN THE WARM, CLEAR WATERS OF JAMAICA.

- Complete Gear Rental Facility • 26' Pontoon Dive Boat • Night Dives
- Choice Of Meal Plans • 1st Class Lodging On The Sea

**ISLAND DIVE SHOP LTD.**  
329 SO. GROVE STREET  
FREEPORT, N.Y. 11520  
(516) 546-2030 RES. & BROCHURE

**Dive In SAN ANDRES ISLA**

"COMPLETE DIVING FACILITIES"

DIRECTLY FROM MIAMI WITH

**AEROCONDOR**  
La Línea Aérea de Colombia

For Information:

**CRESSI-SUB AQUATIC CENTER LTD.**  
971 S.W. First St.  
Miami, Fla. 33130  
U.S.A.



**DIVE YUCATAN REEFS**

World's 2nd largest living reef runs 50 yds. off our beach resort. Great variety of sea life & coral. Snorkeling & scuba facilities. Only \$25 a day, per person, double occ. Incl. 3 excellent home-cooked meals. Only 15 min. from Cancun Airport. For reservations or info write: Playa Ojo de Agua, Apartado Postal 299, Cancun, Q. Roo, Mexico.

**SPORT DIVERS PARADISE**

- In true Cousteau spirit
- The most exhilarating diving in the Caribbean at the Coral Reef Club, Barbados, West Indies
- Temptingly competitive rates—Beginners & Experienced divers—Individuals & Groups
- See what you dive before you come! Location super 8 color sound film, slides
- Information & Bookings—write or call U.S. Agent David Acciaiolly, 1313 Fulton National Bank Bldg., Atlanta, GA. 30303 Tel. (404) 522-2023 (404) 231-1262

**EXPEDITION**  
to remote tropical islands.  
6 or 14 days from \$290.  
Write for free Adventure Booklet.  
Box 120, Dept 400 Miami Beach, Fla. 33139.

**Windjammer Barefoot Cruise**



**DIVE THE EXUMA CAYS**  
**THE BEST OF THE BAHAMAS**

- 71' Diving Yacht
- Unlimited Diving
- Wall Dives
- Night Dives
- Free Air
- Excellent Food
- Economical Price
- Groups Only

**R/V DRAGON LADY** 800 S.E. 17th St.  
Ft. Lauderdale, Fla. 33316

**EXPERIENCE THE CRYSTAL CLEAR WATERS OF THE BAHAMA ISLANDS**

- Character Trawler Yacht
- Free Air
- A Dive and Beachcombing Vacation
- 5 Dbl. Staterooms
- Reasonable Rates
- Free Brochure

**M/V TROPIC JACK**  
1500 S.W. 17th Street  
Ft. Lauderdale, Fla. 33312

**ON THE ROCKS**

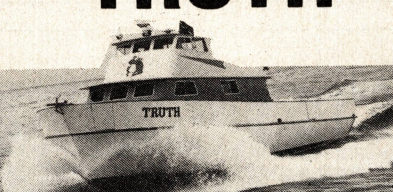
YOUR MIDWEST DIVING VACATIONLAND DOOR COUNTY, WISCONSIN

LODGE HAS COMPLETE FACILITIES...  
AIR-EQUIPMENT RENTALS-LOGGING  
COOKING-DINING-SHORE DIVES-GUIDED  
BOAT DIVES

Gene Shestal, Dept. SD  
Rt. 1, Box 164G  
Ellison Bay, Wisconsin  
54210

Clear water, many wrecks, and free map

**THERE'S NO SUBSTITUTE FOR THE TRUTH**




**CHARTER CALENDAR/SEPT.**

Date	Name/Charter	Phone
1-2	Open Boat	(805) 963-3564
3	Blue Fins	(213) 459-4791
4-5	O'Neills	(408) 476-5201
8	Open Boat	(805) 963-3564
9-10	Divers Corner	(213) 927-1417
11	Desert Divers	(805) 942-5523
12-13	Mt. Man Divers	(801) 753-4606
15-16	Open Boat	(805) 963-3564
17	Sea Stars	(213) 790-0678
18	Open Boat	(805) 963-3564
21-23	U.P.S.	(213) 277-3831
24	Open Boat	(805) 963-3564
25	Sea Sabres	(213) 922-2398
26-30	Five Day Trip, Mike Gadzinski	(313) 779-8777

For additional rates and information contact:  
**ROY A. HAUSER**  
Sea Landing at the breakwater,  
Santa Barbara, Calif. (805) 963-3564

**EAST COAST LOBSTERS**



Discover their habits and life history in **skin diver** on sale September 1



## Cat Island Diving

A new company, Cat Island Divers Ltd., has begun dive operations on Cat Island in the Bahamas. The owners are Bruce Buxton and Jerry Schnabel. Jerry has been instructing for more than ten years. Bruce has made many dive trips to the Bahamas, and has been living on Cat Island for the past six months.

Instructors on Cat are certified by NAUI and have years of experience leading dive tours as well as teaching scuba and skin diving and underwater photography. They introduce divers to the photographic "hot spots" on the reefs of Cat.

Cat Divers is well-equipped for groups or individual parties with ample tanks, boats, compressors, weights, etc. After a hearty breakfast there are two tanks dives and following lunch, another. There are usually two night dives a week.

For reservations and travel arrangements contact Alan L. Seissler, 2182 Golf Course Drive, Reston, Va. 22091. 🐠

## See & Sea to Cayman At Xmas

See & Sea Travel, Inc. of San Francisco has announced its fifth annual Christmas program aboard the *Cayman Diver*. For ten full days, this recently remodeled 83 ft dive boat will cruise the finest dive sites in the Cayman Islands.

This year's escort for the special Christmas cruise is Carl Roessler of See & Sea.



For more information on this and other worldwide dive adventures, contact See & Sea Travel Service, Inc., 680 Beach St., # 340, San Francisco, Calif. 94109. 🐠

## The Dive Shop, St. John, V.I.

Jack Bosh, owner of the Dive Shop in Cruz Bay, St. John, U.S.V.I., recently certified his 200th diver. "I've had them as young as 13 and as old as 70," he says, "but they always get hooked on diving."

Jack provides the full gamut of diving services: wreck, reef, and night diving, underwater photography dives, PADI, NAUI, and YMCA certification courses for the beginner, and courses, such as advanced open water certification, for the certified diver.

For more information and special group dive package rates, write: Jack Bosh, The Dive Shop, Cruz Bay, Saint John, U.S. Virgin Islands 00830. 🐠



**Cayman Airways, Ltd.**  
The National Flag Carrier of the Cayman Islands  
Box 1101, Grand Cayman, B.W.I.



**Southern Airways, Inc.**  
United States Flag Carrier to the Cayman Islands  
Hartsfield Atlanta International Airport,  
Atlanta, Georgia 30320



## Explore another planet.

**About 50 yards offshore in the Caymans, space and time stand still.**

When you dive in the Caymans, you leave the everyday world a couple million miles behind. Because here, amid the greatest reefs in the Caribbean, you'll find everything from cliffs to caves to black coral and spectacular shipwrecks—within paddling distance of shore. The diving is spectacular. The photography phenomenal. The guides among the most knowledgeable in the world. And the accommodations are all a stone's throw from great diving areas. Everything from a modern luxurious resort to a quiet little seaside lodge.



**Cayman Islands Department of Tourism**  
250 Catalonia Ave., Suite 604, Coral Gables, Florida 33134

Please send me your brochure that tells the whole beautiful story about the Caymans.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State/Zip \_\_\_\_\_

SDC

**Beach Club Colony**

Box 903, Grand Cayman, B.W.I.

**Bob Soto's Diving Ltd. & Lodge**

Box 894, Grand Cayman, B.W.I.

**Buccaneer's Inn**

Box 68, Cayman Brac, B.W.I.

**Casa Bertmar**

Box 637, Grand Cayman, B.W.I.

**Cayman Kai Resort Ltd.**

c/o HPI, 1301 W. 22nd St., Ste. 120  
Oakbrook, Illinois 60521

**Cico-Avis Rent-A-Car System**

Box 400, Grand Cayman, B.W.I.

**Grand Cayman Holiday Inn**

Suite 205, 7220 N.W. 36th St.  
Miami, Florida 33166

**Grand Old House**

Box 443, Grand Cayman, B.W.I.

**The Jewelry Factory**

Box 334, Grand Cayman, B.W.I.

**Spanish Bay Reef**

Box 800, Grand Cayman, B.W.I.

**Sunset House**

Box 479, Grand Cayman, B.W.I.

**Surfside Water Sports**

Box 26, Grand Cayman, B.W.I.

**Tortuga Club**

3850 N.W. 30th Ave., Miami, Fl. 33142





# PENNEKAMP PARK

America's Fabulous Undersea

By Paul J. Tzimoulis



A full-page photograph of a sunset over the ocean. The sky is filled with horizontal bands of orange, yellow, and dark blue. A small sailboat is visible on the left side of the horizon. The water reflects the colors of the sky.

# Playground

photograph by Bill Crawford

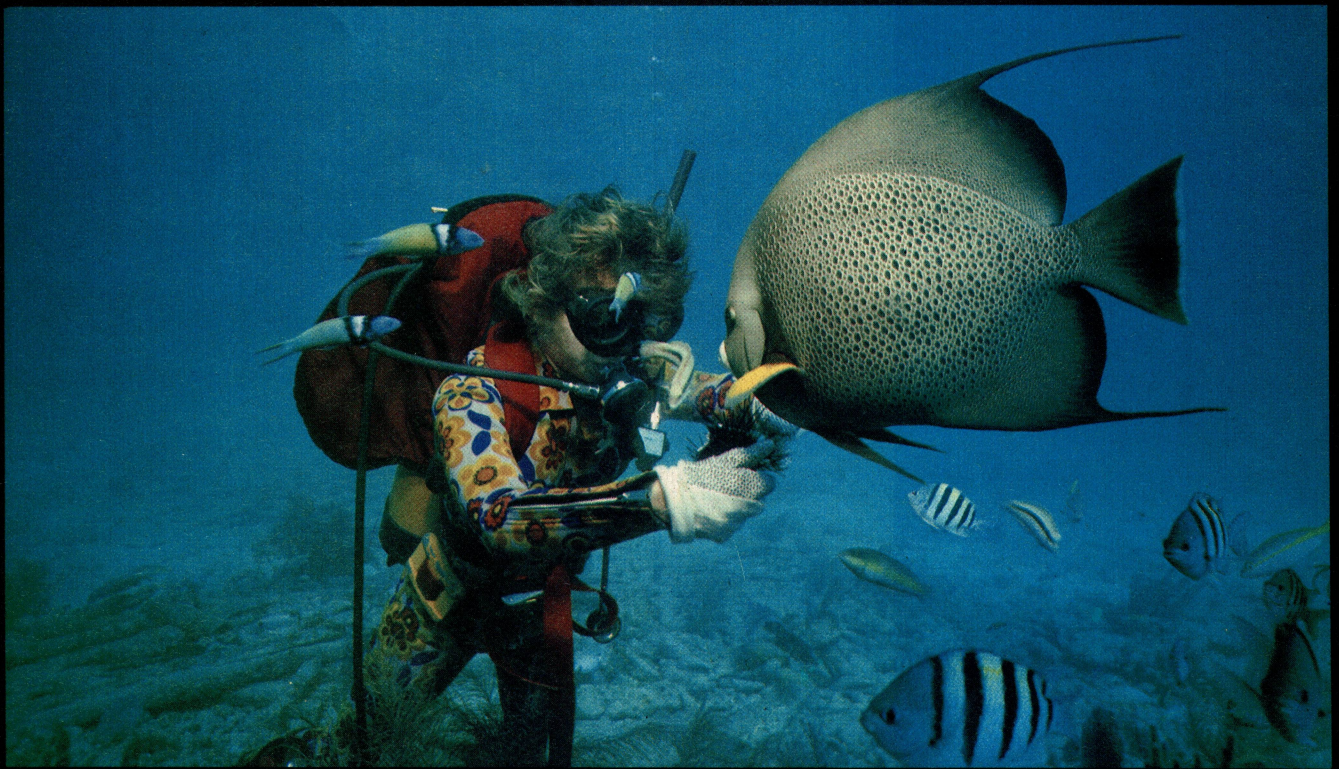
If there is one place in the U.S. which has won the hearts of every American diver, it has to be John Pennekamp Coral Reef State Park. Situated at the head of the Florida Keys, this vast undersea playground covers almost 73,000 acres of warm tropical seas and flourishing coral reefs.

Each year the park serves as host to more than 150,000 divers. They come in droves — arriving via automobile, camper, tour bus, private plane and even by boat. Key Largo's parking lots are often jammed with vehicles bearing license plates from all 50 states

plus Canada and Mexico. And on holiday weekends, it is virtually impossible to find a hotel room or camp site within a 50 mile area of the park entrance. Pennekamp has become so popular in recent years that it is often described as "the Yellowstone Park of the underwater world."

Why the soaring popularity of Pennekamp Park? The reasons are as many as the kinds of divers who go there. Accessibility, abundant marine life, good visibility and excellent scuba facilities are perhaps the major attractions. However, the variety of dive lo-







# PENNEKAMP PARK

*The Christ of the Abyss statue stands in 21 feet of water in Pennekamp Park. It is nine feet tall and weighs 2000 pounds. Marine life within the park's boundaries has increased since the park was formed. There are over 50 corals and more than 650 species of fish.*

## DIVE SHOPS/BOATS ON KEY LARGO

Ocean Reef Dive Shop  
Ocean Reef Club, Inc.  
Box 274-B  
Key Largo, Fl. 33037  
(305) 852-9350  
Harry Keitz, Owner  
Tiny Wirs, Manager

American Diving Headquarters  
Rt. 1, Box 274-B  
Key Largo, Fl. 33037  
(305) 451-0037  
Harry Keitz, Owner  
Alex Kitchens, Manager

Key Largo Diving Headquarters  
Rt. 1, Box 293  
Key Largo, Fl. 33037  
(305) 451-1151  
Dave Lindsay, President

Bill Crawford's  
Tropic Isle Dive Shop  
P.O. Box 755  
Key Largo, Fl. 33037  
(305) 451-1063  
Bill Crawford, President  
Charlotte Crawford, Vice-Pres.  
Gary Osgood, Manager

Capt. Steve Klem  
Underwater Guide Service  
P.O. Box 1803  
Key Largo, Fl. 33037  
(305) 451-1831  
Capt. Steve Klem, Owner

Coral Reef Park Co.  
John Pennekamp Coral  
Reef State Park  
Rt. 1, Box 13-M  
Key Largo, Fl. 33037  
(305) 451-1621  
Randy Pegram, Owner  
David Ireland, Manager

Ocean Divers, Inc.  
Rt. 1, Box 1113  
Key Largo, Fl. 33037  
(305) 451-3737

Dolphin Dive Center  
P.O. Box 1936  
Key Largo, Fl. 33037  
(305) 451-1383  
Capt. Terry Holderfield, Co-owner  
Rex Rothing, Co-owner  
Dan'l Vinco, Co-owner  
Capt. Gordon Elliot, Co-owner

Key Largo Kampground  
and Marina, Inc.  
P.O. Box N-13  
Key Largo, Fl. 33037  
(305) 451-1431  
Dwight "Ike" Beal, Marina Mgr.

Holiday Inn Scuba Shop  
Rt. 1, M.M. 100  
Key Largo, Fl. 33037  
(305) 451-3483  
Bob Klein, Owner

Dive Boat "Annie Up"  
P.O. Box 1335  
Key Largo, Fl. 33037  
(305) 451-0005  
Tom Guarino, Owner-Captain

Sea Dwellers Dive Center  
P.O. Box 1796  
Key Largo, Fl. 33037  
(305) 451-3640  
T. J. Holub, Co-owner  
Larry Bateman, Co-owner  
Gary Renner, Manager

Ocean Divers, Inc.  
Rt. 1, Box 1113  
Key Largo, Fl. 33037  
(305) 451-0286

Bryn Mawr Camp Resort  
Rt. 1, Box 66-J  
Key Largo, Fl. 33037  
(305) 852-3011  
David Beck, Manager

Capt. Cliff King  
Scuba and Snorkel Tours  
227 Tavernier Dr.  
Tavernier, Fl. 33070  
(305) 852-5616

cations and surprising range of dive activities certainly play an important role in the park's popularity, especially among veteran divers who return to Pennekamp year after year. Pennekamp is perhaps the finest snorkeling area in all of the Keys, since many of the coral reefs come within three to five feet of the surface and the excellent visibility provides a spectacular panoramic view of the marine ecology.

Scuba instructors and their neophyte classes enjoy Pennekamp because much of the good diving areas range in depth from 20 to 30 feet. This is easy diving in warm, clear water where the new diving student can relax and enjoy his open-water training experience. The more advanced scuba diver finds Pennekamp fascinating because of its never ending variety of dive experiences. There are coral caves to be explored, sunken ships to be examined, fish by the thousands, and a nine-foot bronze statue of Christ which provides a very unique subject for underwater photography. Seldom does a day pass when a returning diver doesn't find something new and exciting.

The history of Pennekamp Park is almost as fascinating as the coral reefs it contains. In the late 1950's marine biologists were becoming uneasy about the rapid depletion of marine life along the Florida Keys. Commercial shell collectors and coral miners were tearing up the reefs with reckless abandon in an effort to supply the rapidly growing demand of curio shops and tourist souvenir collectors. Queen conch shells were hauled out of the Keys by the truckloads until the conch population was thoroughly exhausted. Living reefs were literally torn apart with tire irons, crowbars, and boat winches as commercial coral hunters brought up tons of elkhorn, staghorn and brain coral formations.

In 1957, Dr. Gilbert Voss of the University of Miami's Marine Institute proposed the establishment of an underwater park and marine preserve off Key Largo. It would be a submarine sanctuary where corals, shells and fish would be protected by law. The idea quickly gained momentum and won the immediate support of conservation groups, civic associations, government agencies and scientists alike. In December 1959, Florida Governor Leroy Collins signed over control of the ocean sea floor to the three-mile limit to the Florida Board of Parks and Historic Memorials. The area beyond the three-mile limit to the edge of the continental shelf was signed over in a similar manner in a proclamation by President Eisenhower.

On December 10, 1960, dedication ceremonies were conducted, and Governor Collins officially named the new marine preserve the John Pennekamp Coral Reef State Park. It was named in honor of Miami Herald newspaper editor, John Pennekamp, one of Florida's leading champions for natural conservation projects. Pennekamp was the first chairman of the Florida Board of Parks and Historical Memorials, as well as legislative chairman for a state commission which established the Everglades National Park.

By spring of 1963, work had been completed on the park's roads, marina, and basic building facilities. The park was operational and the public was beginning to enjoy the convenience of the new facilities.

On July 29, 1966 formal dedication services were held at sea for the Christ of the Abyss statue. This event was the culmination of five years effort by the Underwater Society of America and the international dive community in the establishment of America's first underwater shrine. Back in 1962 Egidio Cressi, a well-known Italian manufacturer of dive equipment, had donated a nine-foot, 2000 pound bronze statue to the Underwater Society.



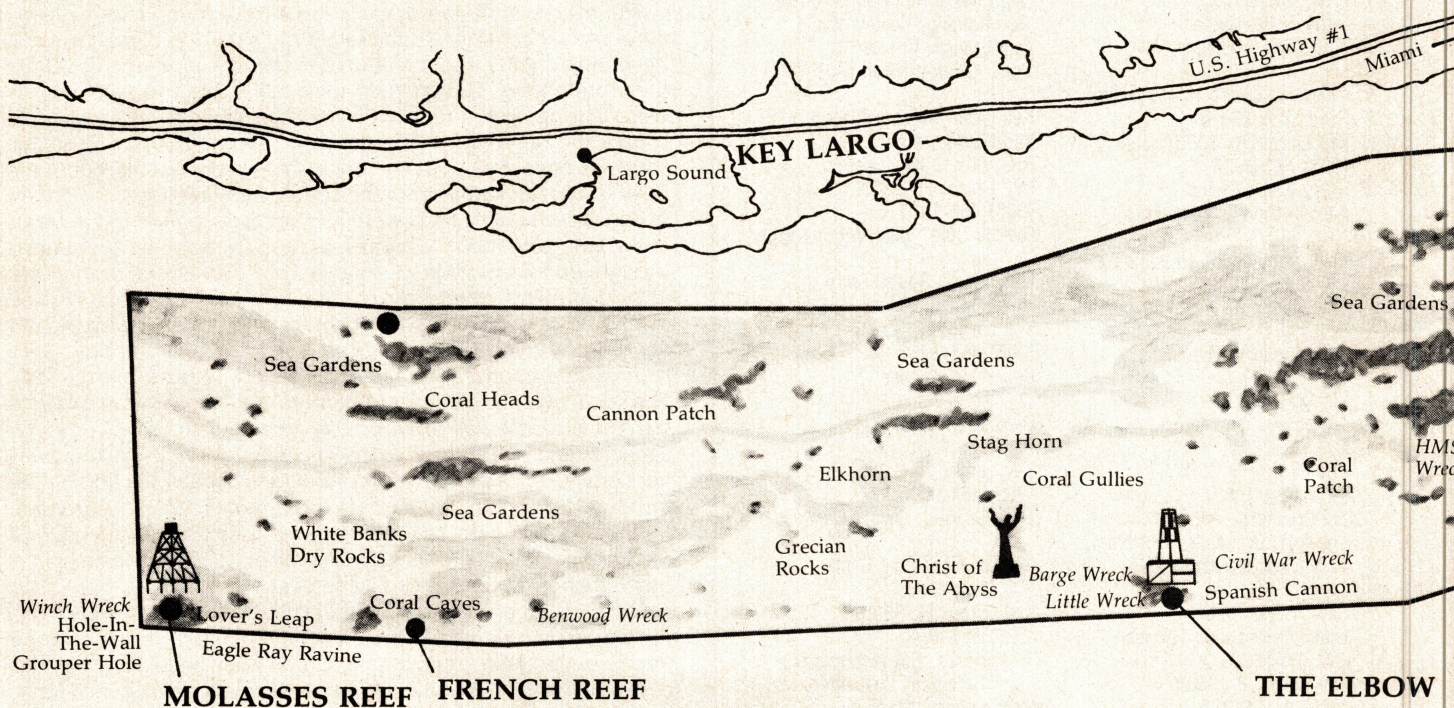
It was an exact copy of the 11 Christo Degli Abissi memorial which stands in 50 feet of water in San Fruttuoso Bay, Italy. The statue was sculptured by Guido Galletti, and the American replica is the only other one of this design existing in the world today.

The concept of the underwater statue is that of Duilio Mercante and can be best explained by the following quote from his 1954 dedication speech in Italy: "He (the statue) will descend in the green silent depth of the sea and remain there to protect the living. The dead shall no longer be lonely. The shadows of all who lost their lives in the sea shall be present, without discrimination of nationality or color. With His liberal gesture of invitation, He will welcome everybody; all who lived for the sea and who, in the same sea they so dearly loved, found their eternal peace." Mercante's words could very well apply to the hundreds of un-

occurred. Today, Pennekamp Park coral gardens are richer and more beautiful than ever. Her reefs are teeming with schools of fish, as the marine life population has tripled in size. The constant protection from coral and fish predators has paid off handsomely, and Pennekamp Park has become an incredibly rich reservoir of marine life. Within her boundaries over 50 species of coral continue to flourish and more than 650 species of fish and other aquatic life can be counted by the scientists. Pennekamp Park stands as a living example of how man and nature can exist together in harmony and still benefit man.

Few visitors realize how large Pennekamp Park really is until they cruise to the outer reefs by boat. It is a vast, expansive ocean wilderness which measures 21 miles in length and an average of 3½ miles in width. In fact, a boat anchored at the south end of the

# PENNEKAMP PA



fortunate sailors who lost their lives along these coral reefs in the sinking of Spain's 1733 treasure galleon fleet.

The Christ statue was placed in a natural depression surrounded by a coral reef patch known as Key Largo Dry Rocks. The one-ton bronze monument is supported by an 11 foot by 11 foot square concrete foundation weighing 42,000 pounds. With arms upraised towards the surface and the heaven, this memorial symbolizes peace and understanding among all divers. It stands in 21 feet of water and is visited daily by a constant stream of snorkelers and scuba divers.

Since its inception, Pennekamp Park has played host to more than one million visiting divers. Each year, its popularity has grown and more divers arrive from all corners of the world. You would think by now that the reefs would have been trampled and every piece of coral broken — yet quite the contrary has

Park cannot sight another at the opposite end.

From a scuba diver's point of view, Pennekamp Park can be divided into four separate regions, with each area encompassing at least a dozen different dive spots. The most popular is the Molasses Reef section located at the southeastern corner of the Park. A mouse-maze of coral ridges and sandy channels provide an unending variety of dive experiences and underwater attractions which could keep a diver busy for a month.

Five miles northeast of Molasses Reef is the French Reef area, which contains a fascinating assortment of undersea caves, coral heads and tunnels. Just to the north of this area lies the Benwood wreck, a 285 foot steel freighter which sank during World War II.

Eight miles further on is a coral reef area known as the Elbow. This reef is loaded with the wreckage of several sunken ships, as well as a mysterious Spanish cannon. Not far to the south of the



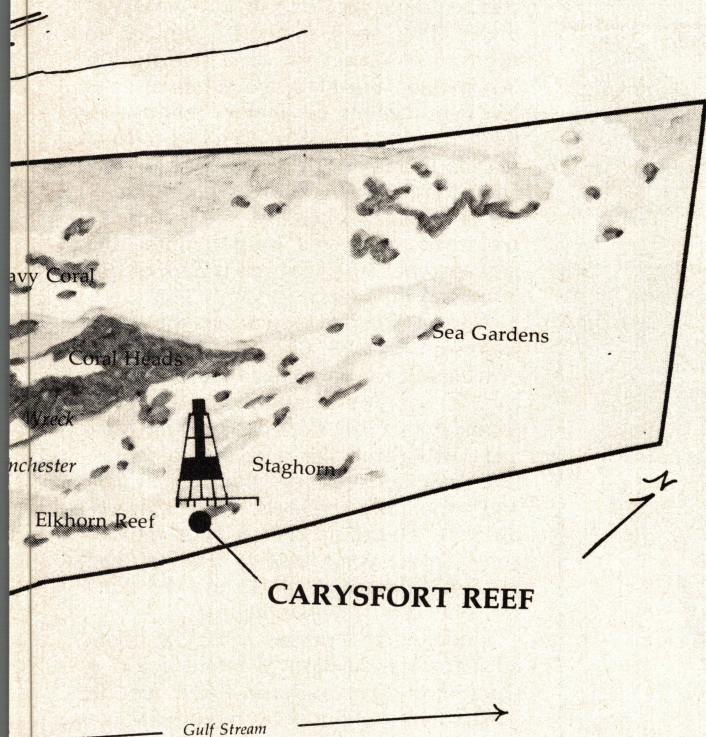
Elbow is Dry Rocks, the location of the world-famous Christ statue.

Located at the northern end of the Park is Carysfort Reef, a less dived area but one which offers one of the most beautiful elkhorn forests in the Keys. In addition to its exceptionally beautiful coral formations, the Carysfort Reef area also abounds in ancient shipwrecks including the remains of the *H.M.S. Winchester* and the *H.M.S. Carysfort*. Each of these four regions offers a uniquely different undersea environment as well as an opportunity to dive a remarkably wide range of undersea attractions.

As for snorkeling, the range of opportunities is even greater. Grecian Rocks is considered one of the most popular snorkeling areas with an average depth of six feet. At White Bank Dry Rocks, the depths range from five to 15 feet and the area is larger. Can-

# RK

*Pennekamp Park is a vast, expansive ocean wilderness which measures 21 miles in length. It can be divided into four separate regions: Each area has a dozen different dive spots.*



non Patch is another excellent snorkeling spot, marked by two British cannons which lie in four to five feet of water. But the two most impressive sites for any snorkeler still remain the Christ statue at Dry Rocks and the spectacular elkhorn barrier reef at Carysfort.

Because of the Park's immense popularity and tremendous volume of diver traffic, a thriving community of dive stores and independent boat operators have sprung up along both sides of Highway #1 on Key Largo. In fact, Key Largo has more dive shops per capita than any other city in America. There are a total of 12 dive shops and three tour operators located within a ten mile stretch along the highway. In some places the dive shops are barely a few hundred yards apart, each colorfully decorated with a diver's flag and large signs offering trips, air, and other services.

The dive shops on Key Largo play a vital role in both the local

economy of the town and the growing prosperity of Pennekamp Park. Since most of the good dive spots within the Park lie five to six miles offshore, transportation by boat is a necessity. The dive shops own or operate one or more dive boats which make daily excursions out to the reefs. At last count, there were 22 commercially-licensed dive boats operating out of Key Largo, representing one of the largest dive boat fleets in any given area of the U.S.

All Key Largo dive boats are U.S. Coast Guard licensed, and inspected on a regular basis. Most are specifically designed or fitted out for scuba diving, and are equipped with dive ladders, diver down flags, static lines, and rescue equipment. They are skippered by well-seasoned, professional boat operators who have a good working knowledge of the reefs and are often expert scuba divers themselves. The larger boats are crewed by first mates and dive masters who are well-skilled in the business of diver safety and rescue. On the whole, the dive boat fleet at Key Largo is one of the best maintained and best run group of dive boats in the Caribbean.

Key Largo offers an equally wide range of hotel accommodations for the visiting diver, whether he intends to stay overnight or spend two weeks vacationing in the Keys. If you desire a large commercial type motel accommodation, there is a Howard Johnson's Motor Lodge, a Holiday Inn and the five-story Unwinder Hotel — all conveniently within a couple minutes drive from any dive shop. Should you desire a smaller motel or cottage, there is the Reefcomber, Largo Lodge, Kelly's, Rock Reef or a half-dozen other motels. If you are a single looking for a real bargain, some of the dive shops, such as Key Largo Diving Headquarters, offer scuba dormitory facilities for less than five dollars a night.

Most hotels in the Florida Keys offer some excellent bargain rates during the summer off season. For example, the Howard Johnson's Motor Lodge has a special diver rate of \$17 per night for a room that can accommodate two people. This works out to \$8.50 per person. The room rate for a triple is \$21 and a room which holds four people goes for \$25 a night. Incidentally, these rooms are first class, with wall-to-wall carpeting, air-conditioning and hot water showers. A beautiful, freshwater swimming pool, shuffleboard courts and boat dock are located right on the hotel grounds. And like all Howard Johnson's, an excellent restaurant is located at the front of the hotel complex, just a few steps from the room. In addition, there is a small cocktail lounge adjacent to the restaurant which has become a popular gathering place in the evenings for local divers and visitors alike.

As for dining, Key Largo is blessed with a wide variety of restaurants and eating establishments which will delight and satisfy the appetites of everyone. For breakfast, the most popular locations are: Howard Johnson's, the Ranch House, Hilda's, or Kelly's Restaurant. For a quick, inexpensive lunch there are at least a half-dozen roadside stands such as: the Burger Hut, Fat Boy's Bar-B-Cue or Mac's Bar-B-Cue.

There are at least ten good places for an evening dinner depending on the type of food desired. The Chinese Restaurant at Rock Harbour has a delightful menu. Mary & Stan's is considered for turtle steak and banana daiquiris. Danny's is highly recommended by many of the dive shop operators and offers a wide variety of meals. The Tiki Isle serves Polynesian-style dishes along with Tahitian music. For seafood, you might want to try Captain Doug's Blue Marlin, or the Pilot House. And if you're looking for fast service, all-American style cooking, Howard Johnson's can fill the bill.

There's a lot that goes into making Pennekamp Park the most popular dive area in America. It is more than just a pretty coral reef. Its success can be credited to an excellent blend of good dive shop services, fast dive boats, good hotel accommodations, fine dining and, of course, a superb variety of undersea attractions and fascinating congregation of marine life. There is no other place in the country like it, and no diver should feel complete until he has made at least one pilgrimage to Pennekamp Park. >>>





# Key Largo Bryn Mawr Camp Resorts



## Florida's Finest Clearwater Dive Trips Aboard Cpt. Glen Ward's AQUANAUT

- Snorkel/Scuba • Spear fishing • Underwater Photography
- Shell Collecting • Treasure Hunting • Tropical Fish Collecting
- Extended Custom Charters
- Group and Private PADI, FSDA, and YMCA Instruction
- Large, Modern Marina with Complete Dive and Tackle Shops
- U.S. Divers/Dacor and Major Lines of Equipment.
- Sales
- Rental



Swimming Pool, Tennis and Paddle Courts, Fishing Pier, Planned Activities, together with the most ideal weather in the country, make Key Largo's Bryn Mawr Camp Resort a special place to visit.

**MILE MARKER (95) US1 Box 66J, Key Largo, Florida 33037 (305) 852-3011**  
**WORKING TO MAKE DIVING BETTER**

## DIVE SHOP FOR SALE

**FLORIDA EAST COAST — \$30,000**

WRITE TO: P. J. KEARNEY  
1707 H STREET, N.W., SUITE 605  
WASHINGTON, D.C. 20006

## UNDERWATER WATCHES!

Quality diving watches at a price you can afford. Seiko 17 jewel auto, a tremendous value at the best price possible — \$110.00. Lejour 17 jewel Depthograph, only \$100.00. Includes Postage. Check or BankAmericard. Arizona residents add 5% tax. Send for free brochure.

**LANJ SPORTING EXCHANGE**  
P.O. Box 28158, Tempe, Az. 85282



Seiko

# THREE KEY LOCATIONS

... for Snorkeling and Diving\*

Discover America's "out-islands," the Florida Keys. For special excitement, the most thrilling snorkeling and scuba diving at such locations as John Pennekamp Park. Also available ... fishing, boating, golf, tennis, Theatre of the Sea and historic Key West.

**MARATHON**  
Overseas Hwy.  
U.S. 1  
Marathon, Fla. 33050  
(305) 289-1400

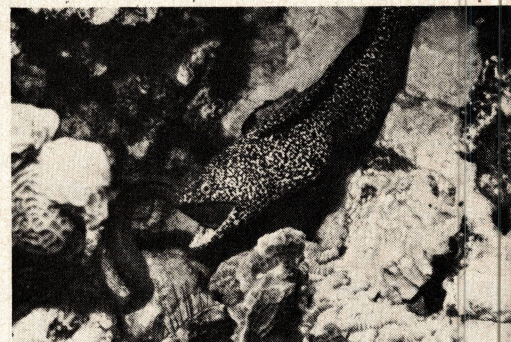
**ISLAMORADA**  
Overseas Hwy.  
U.S. 1, Windley Key  
P.O. Box 224  
Islamorada, Fla. 33036  
(305) 664-2711

**KEY LARGO**  
Overseas Hwy.  
U.S. 1, Box 1169  
Key Largo, Fla. 33037  
(305) 451-1400

For information or brochures, write directly to the Howard Johnson's Motor Lodge. For reservations, call our toll free numbers:  
(800) 654-2000  
In Oklahoma (800) 522-4211  
In Canada, call collect (405) 848-8611

\*Special Group Rates — Sunday through Thursday

# eel cannibalism



Many fish are flesh-eaters, but only rarely does man witness proof of that fact. Some divers can tell stories of barracuda eating a speared fish, and almost all divers have seen small fish devour an overturned sea urchin, or a starfish destroy a clam. But these are either cases of one fish finishing off another that has already been wounded or a mobile form of sea life eating an immobile one. It is not often that a diver observes mortal combat between two healthy, free-swimming specimens. Surely it must happen, but perhaps only when the sea is dark or free of human intruders.

When I dropped down into the warm waters off Bonaire, I had no premonition I was about to see an example of marine cannibalism. My wife, Roberta, and I, together with Peter Capen and Walt Minnick, had dived the area several times. Like most Bonaire reefs, the tropical fish, and especially the eels, were extraordinarily abundant. A six-foot moray, coiled into a coral head at 100 feet, had become a familiar sight to us, and once we spotted him swimming free.

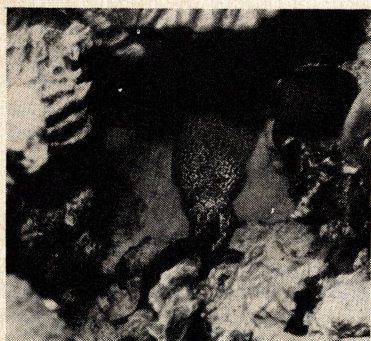
Suddenly, as I passed a rock at about 60 feet, I saw a flash of bright color. A spotted moray, perhaps three feet in length, had shot out of his hiding place to seize a smaller, green moray. Like two snakes in combat, they had faced each other with gaping jaws. The spotted moray, being larger, was able to take the green's head within his jaw, and so it was but a matter of time before the smaller fish was swallowed intact.

As soon as I saw what was happening, I began to try to do two things at once — snap pictures as fast as the strobe would recycle, and bang on my tank to call the other divers to the scene. As is usual, there is never another diver around when you want one. I decided to concentrate on photography. With the strobe recycling at three second intervals it was possible to shoot at close range — three or four feet — a sequence of pictures record-



## subsea drama captured off Bonaire

By James Q. Wilson



photography by Author

ing the entire process.

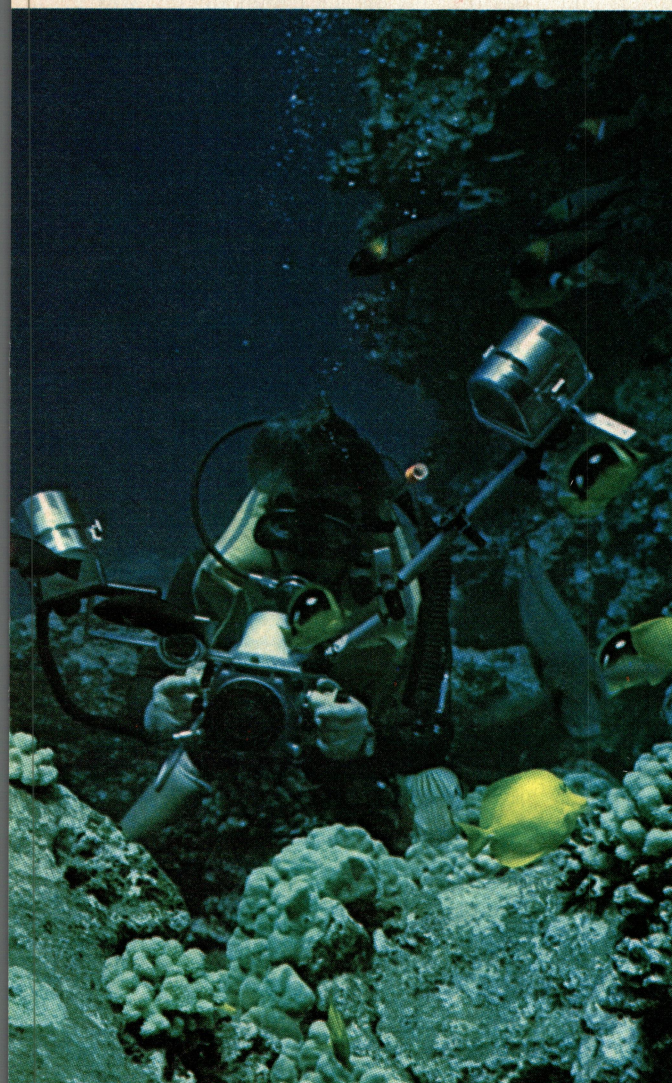
The spotted moray seemed oblivious to my presence, and finally came completely out of his hole in order to finish off his opponent. His meal done, the eel slid back into his hole while I went to the surface to describe, with as much studied ca-

sualness as I could muster, my luck.

James E. Bohlke, the curator of ichthyology at the Academy of Natural Sciences in Philadelphia, is one of the world's leading authorities on eels, as well as being the coauthor, with Charles Chaplin, of the well-known volume, *Fishes of the Ba-*

hamas. In a letter commenting on my photographs, Bohlke observed that most sharp-toothed reef eels are piscivorous and, obviously, well-shaped for swallowing another eel. Bohlke had never seen this happen, but was aware of X-ray photographs of eels that showed them to have entire fish and other eels in their guts. Eels examined by Randall were found, on dissection, to have not only fish, but bits of crab and even octopus inside.

Many questions remain unanswered. Was the initial attack by the spotted moray motivated chiefly by hunger, or by a desire to protect his territory from an intruder? Do eels eat only members of different species, or do they eat their own kind? Why would a green moray intrude into the domain of a larger eel? Or did he intrude? Perhaps he lived next door, and an argument over the back fence culminated in a fatal attack. >#



## SCUBAMERICA DIVING ADVENTURES

Discover the ultimate in diving thrills. The ultimate in diving bargains. Discover Continental's Scubamerica tours!

**MICRONESIA—15 days, \$750** choice of Blue or Gold Tour.

**TRUK LAGOON—13 days, \$900**

**MAJURO EXPEDITION—9 days, \$680**

**FIJI—14 days, \$650**

**HAWAII—7 days, \$399** choice of Kona Coast or Maui.

**BONAIRE—8 days, \$700**

**CAYMAN—8 days, \$245**

**COZUMEL—8 days, \$600**

**GRAND CAYMAN—8 days, \$600**

**HAITI—8 days, \$389**

All prices per person, double occupancy.

**AIR FARE NOT INCLUDED.**

For reservations, call Continental, your travel agent or dive shop. Send coupon below to receive a colorful brochure detailing these 10 exciting tours.

Scubamerica Tours

Box 9000, Van Nuys, CA. 91406

Send brochures on diving tours of ☐ Micronesia ☐ Truk Lagoon

☐ Majuro Expedition ☐ Fiji ☐ Hawaii ☐ Bonaire ☐ Cayman

☐ Cozumel ☐ Grand Cayman ☐ Haiti

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

My Travel Agent \_\_\_\_\_



**CONTINENTAL AIRLINES**  
**AIR MICRONESIA**



SA-8



## Florida's Sure Tours

By John Hardebeck

Florida has more prime diving opportunities than anywhere else in the Union. There are literally hundreds of adventure spots, from the pristine freshwater springs of north and central Florida to the fascinating coral reefs of the Keys. My copy of *Erving's World Wide Skindivers Guide* contains 43 pages of Florida dive locations. There's no shortage.

The only trouble is that your vacation may be ruined by suddenly unfavorable water or weather conditions or because you or your travel agent (probably a non-diver) really don't know the area. Another hazard involved in ad-libbing a Florida dive vacation is the cost.

So what's the option? Jacksonville's Underwater Educators, Inc., have provided one, with their newly launched Dive Florida Tours. For a total of \$69 per person, they furnish, over a weekend, a fenced-in, secure parking place for your car in Jacksonville (at their Beach Boulevard base); round-trip transportation from there on a comfortable, long-range bus to a top-rated Florida dive locality; destination lodging at a pre-inspected resort hotel (where groups always get the best service); and, for ocean diving excursions, a roomy boat chartered for the exclusive use of the DFT party. The bus is equipped with lounging seats and with amplified stereo and CB

radios for the passengers' pleasure.

The \$69 price does not cover meals (perfect for weight-watchers) but it does cover rental of nearly all dive equipment (bring your own mask, weight belt, snorkel and fins), an air fill for the first dive, and, for non-certified participants, a three-hour resort certification (check-out to dive with an instructor). The latter feature alone is worth \$30 if purchased separately at Underwater Educators. There are two full days of diving and perhaps even a night dive, depending on the group's inclinations.

Presently, Dive Florida Tours is taking parties to West Palm Beach, Pensacola, the Florida Keys, and the myriad of inland freshwater springs in central Florida. (Since the Keys and Pensacola are quite a bit farther from Jacksonville, the \$69 charge for going there is an even bigger bargain than for West Palm Beach.) The bus is crewed by two certified dive instructor-drivers.

Although the tours so far are going only to the areas mentioned, flexibility is always the order of the day, with the group having a lot of input on the trip plan. In frequent statewide telephone contact with hotels, dive shops, charter boat operators, and above all the weather bureau, Dive Florida Tours' principal objective is to give divers and non-divers alike fun in the sun for a weekend — three days and two nights, leaving Friday afternoon and returning Sunday evening. Excellent accommoda-

tions are available at the Jacksonville Beaches, only five minutes from the tour office. Hence, guests — who perhaps think of Florida and Miami as synonymous — will have an opportunity to stay longer and enjoy the area's popular hotels and restaurants and the many interesting historic attractions.

Dive Florida Tours will make advance hotel reservations locally for you. In fact, the DFT slogan, "we drive — you dive," means that out-of-state divers can go ultimate and leave their cars at home. A limousine ride from Jacksonville International Airport to Jacksonville's downtown Robert Meyer Hotel (about 15 miles from DFT) is \$3.30 per person, and DFT will pick up airborne tour members there, either shortly after arrival or, if the hour is late, the next day. (In that event, reservations can be made through DFT for an overnight stay at the Robert Meyer.) Moreover, DFT is happy to transport "car-free" guests from DFT headquarters to beaches, hotels and back, as needed.

Call DFT at (904) 246-7278, or write 13639 Beach Boulevard, Jacksonville, Florida 32224. You will quickly get a free "sure tour" package. If you take the bus, I might just meet you on board. I notice that every Friday afternoon when I'm passing the big DFT sign on my way home from work, my front wheels have a pronounced tendency to pull to the left toward the entrance, especially if I'm thinking of my weekend chores. >>>



Ten minutes ago, this man was in bed.

At the Holiday Inn. In Grand Cayman. It's the best place to stay on the best island for diving in the whole Caribbean. Here's why.

A two-minute swim from our beach and you're 10 feet over a beautiful little reef that's as wild as a Walt Disney movie.

A short boat ride from our beach and you're 60 feet over a coral city. Playing tag with giant grouper and sea turtles. Exploring frigates, and freighters, and all kinds of spooky wrecks.

What's more, we've got a fully-equipped dive shop. And guides who know

these waters better than the fish. And a very nice place to relax after a long day of diving.

For reservations and information, see your **Travel Agent**, or call **305-592-8175**. Or send in the coupon.

### 4 Day/3 Night Diving Package

May 1 to November 30, 1977 \$124.00\*  
Includes air-conditioned room, three 2-tank dives, round trip airport to hotel transfers, gratuities to bellmen, pool and beach attendants and chambermaids, welcome drink, use of lighted tennis courts, 5% government room tax. Rates are per person, double occupancy.

**\*FOR GROUPS OF 10 OR MORE.**

1T6EA1HIRCY



**Grand Cayman Holiday Inn**  
Suite 205, 7220 N.W. 36th St.  
Miami, Florida 33166

S-8

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State / Zip \_\_\_\_\_

**The Holiday Inn, Grand Cayman**

Only One-Hour Non-Stop Jet From Miami.



# undercurrent

## THE EXCLUSIVE CONSUMER NEWSLETTER FOR SERIOUS DIVERS



Discover how to get the most for your diving dollar. *Undercurrent* is the exclusive consumer newsletter available only by mail to serious divers. *Undercurrent* accepts no advertising. Our expert researchers report the facts about equipment, about dive resorts—about the entire sport. We have no ax to grind and no sponsors to please. We work for you, the diver.

### Read about:

The subtle yet significant differences between the depth gauges of each manufacturer. Seavue gauges. Regulators. Receive the results of tests by independent laboratories which scientifically test the equipment of major manufacturers. Find out what is the best buy for your money.

—the resorts that live up to their advertising claims. And the ones that fall flat. Don't waste \$1,000 on a dive vacation only to find that there are no fish because the natives dynamite the reefs. Or the big dive boat hasn't been in the water for six months. Or visibility stinks.

—how wet suits, buoyancy compensators and other equipment hold up under continual use by average divers. Participate in and read the results of diver surveys about equipment and travel. See what other divers consider the best buys.

—never mentioned items: tax deductions, equipment recalls, cheap air fares, life insurance, home exchanges.

### SPECIAL BONUS for New Subscribers

As a new subscriber you'll receive absolutely free *A Critical Guide For Vacation Divers* compiled especially for you by the Editors of UNDERCURRENT. The Guide which is available exclusively to UNDERCURRENT subscribers tells it like it is about scores of popular, little known and recently discovered diving areas and resorts. From Peter Island to Pidertupo you'll receive the inside no holds barred analysis of our experts as compiled from questionnaires from nearly 800 divers and scores of on-the-scene inspection tours by UNDERCURRENT reviewers.

Don't risk spoiling a costly dive trip simply because you did not have sufficient information. Subscribe today and receive a Special Bonus, your copy of *A Critical Guide for Vacation Divers*.

240 Redwood Highway, Sausalito, CA 94965

## undercurrent

P.O. BOX 1658 / SAUSALITO, CALIFORNIA 94965  
(CABLE: GOOD DIVING)

I agree. I would like to receive the inside information UNDERCURRENT offers. Enroll me as a subscriber to UNDERCURRENT.

My \$15 remittance is enclosed. Send me 12 monthly issues of UNDERCURRENT plus my free copy of *A Critical Guide For Vacation Divers*.

**GUARANTEE:** If I'm not pleased with my first issue, I am entitled to receive a full refund.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Please make check payable to "UNDERCURRENT."

HZZ



# GLOBAL

Invites you to the friendly world of underwater.



We can help you get along among all our aquatic friends—by supplying you with the necessary diving accessories.

Catalog, \$1.00, has over 800 items for divers. Available from Global Mfg. P.O. Box 4714 Milw., Wisc. 53215



## New! MASK ANTI-FOG

Finally!... Enjoy hours of fog-free vision. New formula can be applied minutes or days before diving. Just a dab does it! Seven gram unbreakable container: \$2.75 plus 50¢ handling.

**AQUANETICS, Inc.**

P.O. Box 03355 Cleveland, OH 44103

Dealer inquiries invited

## CAMERA HOUSING MANUAL

STEP BY STEP INSTRUCTION TO BUILD A HOUSING FOR ANY CAMERA BY MART TOGGWEILER

SIMPLIFIED DESIGN... DETAILS OF ALL CONTROLS... WORKING WITH PLASTIC... SOURCE OF PARTS & MATERIALS... A SAFE, CYLINDRICAL HOUSING FOR PROFESSIONAL OR AMATEUR

74 fact-filled pages, 60 illustrations

HYDROTECH CO. ONLY \$1.95

BOX 14444, LONG BEACH, CALIF. 90814

Order your part and materials "kit" from the catalog in the manual. Full postpaid service via return mail. 2424 Walnut



## Inflatables

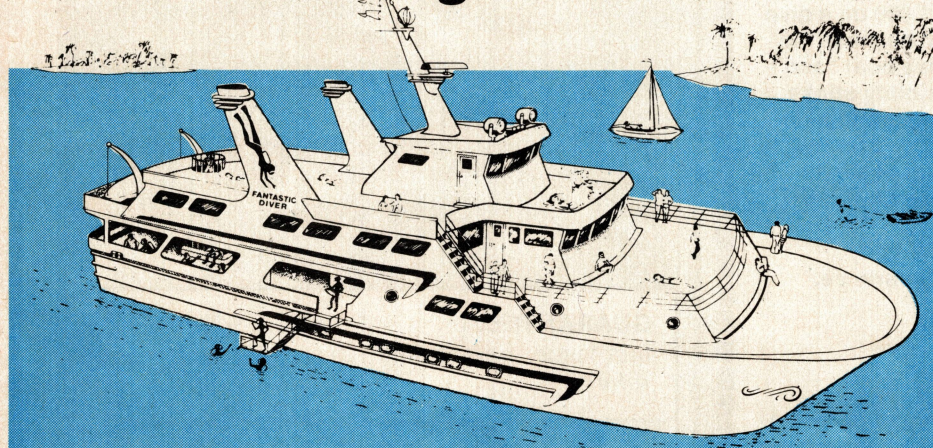
(Continued from Page 41)

unit away from the beach! As far as I could recall, we had carefully carried the motor from the camper to the boat's transom, covered it with a rubberized, waterproof bag and left the sand in minutes. How the sand was finding its way into the starter will probably always be a mystery to me, but we've solved the problem by launching from piers and ramps in most cases. Generally a pier launch costs \$4 to \$6 and a ramp launch as little as 50 cents. We only use the beach if there is no alternative.

One of the outstanding facts we have learned in our experience with inflatable boats is that maintenance is crucial. Hypalon® boats do not need to be rinsed after every saltwater use, as does the motor, but it is a good idea to take the boat out of its bag after every third or fourth trip and give it a good hosing. The boat will pick up odd little bits of tar and oil that can be removed after it is dry with kerosene or charcoal lighter fluid. The first time you apply any organic solvent to your boat do it very carefully, wetting the location only with the dampness of a wet cloth. Use a white cloth so you can see how much color is coming off the surface. Some color will come from the boat with any solvent, but don't be concerned about it as the original luster can be restored with Armor All® Protectant. It is a waterborne plastic emulsion that becomes part of the surface of the material to which it is being applied, restoring the appearance and giving it a lubricating coating. The substance in Armor All® ablates, rubs off, and has to be restored periodically depending on the amount of use, but it is far better to lose Armor All® to the elements of sea and beach rather than Hypalon®. We treat our boat every eight or ten uses and it looks new.

All inflatable boats come with a repair kit and you should familiarize yourself with the use of these kits as soon as you get your boat. It is inevitable that the boat will be punctured, and leaks always become obvious when you are pumping it up in preparation for use. The repair procedure is simple and fast and can be done in the field in less than ten minutes. The boat can be pumped up immediately after the patch has set. In addition to regular punctures, we've had a couple of ultra-fine leaks in the bottom, both in one location, which appear to be separations between the intersections of the fibers in the cloth itself. I can only imagine that dropping a heavy weight has sent a shock wave through the plastic causing it to fail. Purely a hypothetical explanation, but the leaks are so very small, producing bubbles of the kind seen in carbonated beverages, that the holes would have to be thinner than the diameter of a hair. I couldn't see putting one of the kit's relatively huge patches on each of these

## *we've made a good idea better*



# sport diving is ready for Fantastic Diver

*we're waiting to hear from you*



*why lock yourself  
on just one island*

Write for further information

**FANTASTIC DIVER**

P.O. Box 1866 Thibodaux, La. 70301

Temporary address during construction.



## SPORTS MERCHANDISER



PO Box 1262, Marietta, Georgia 30061  
Write for free wholesale catalog.

Mail Order Purchase of Life-Support apparatus must be accompanied by proof of certification.

## EXCLUSIVE UNDERWATER VISION

Offers more enjoyable diving for eye-glass wearers. We permanently bond ground lenses to your own face mask with an optically clear modified epoxy specially tested to withstand temperature and pressure extremes. The 71mm blanks we begin with are custom-contoured to each mask on the market before grinding to give excellent vision from both lateral and horizontal edges of mask. They are guaranteed to give you the same vision under water as you get on land with your eyeglasses. (Actually better, since all objects are brought closer). These uniquely bonded lenses can be yours for only \$39.50. Bifocals add \$14. Uncond. guar. Returned by insured Parcel Post. For air mail add \$1.00. Include Postage if order is outside continental U.S. Illustrated literature available on request. Send your lens prescription, distance between eyes, vertex distance and face plate only to:

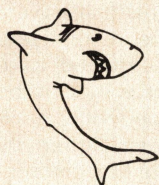
UNDERWATER VISION INC.



Venice Eye Clinic Bldg.  
952 Cooper Street  
Venice, Fla. 33595 / (813)488-3583

## SHARK CREATIONS

### JAWS-TEETH-JEWELRY-NOVELTIES



6" Sparkling Jaw  
\$2.95 Postage Paid.  
Teeth from .05¢  
Jaws from 65¢.  
Necklaces from \$1.50  
Numerous Exciting  
Items  
F.O.B. Sarasota, Fla.

Send \$1.00 for Illustrated Catalog.  
Dealer Inquiries Invited.

4506 D BUSTI DR., SARASOTA, FLA. 33580

Need an  
underwater  
Strobe ?

SEND 50¢ FOR CATALOG...

**SEA**  
RESEARCH and  
Development, Inc.

P.O. Box 589,  
Bartow, Fla. 33830

## AIR FINDER<sup>TM</sup> Seller-Buyer Service

Selling your compressor? Get our list of buyers — you make your own deal. Pay no commission. "IN OUR 16th YEAR"

Buyers get our sellers list!

ALSO New, Rebuilt & Gov't. Surplus Units

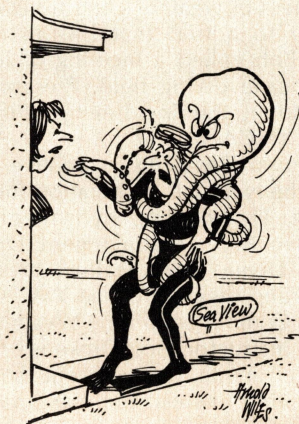
AIR ASSOCIATED  
6115 S. Richmond  
Chicago, Ill. 60629  
Call (312) 778-8197  
or Write \$1.00 For Info

holes, so I mixed a tiny batch of epoxy resin and dabbed a small spot on each fissure, with the bottom deflated. When I pumped it up the next day there were no more leaks.

The wooden seats and transom have to be revarnished periodically and they should be sanded before recoating. All of this work should be done by hand, carefully and with graduated grades of sandpaper. The frequency of revarnishing will depend on the kind and amount of use your boat gets, but when the wood begins to look tacky or scuffed it should be sanded and varnished.

The transom does not come with the aluminum plates seen in the photographs in the beginning of this article. We had ours cut from eighth-inch stock, eight inches on a side, and epoxied them to the wood after sanding thoroughly at the point of attachment. The plates protect the wood, make a more solid mounting for the motor, and need no maintenance. The motor is attached to the transom in the normal manner, but we have added a nylon safety loop in the event the motor should vibrate or shake free. We initially installed a metal locking cable, but the corrosive quality of sea water soon ended the lock's ability to function. In this kind of seamanship, being so close to the water and going through the surf on occasion, you cannot count on keeping anything dry. Any unit that must be kept dry, our sonar, for example, has to be in its own waterproof container.

Inflatable boats are bringing a new dimension to diving. They are more mobile than any other kind of craft, can be used in almost any location, but a rocky beach. These boats are reliable if they are properly maintained and if you are prepared to repair the inevitable leak. They cannot be repaired at sea or while pressurized, but with their several compartments and incredible safety factor they should never fail completely. These boats are not cheap — an outfit like ours cost from \$800 to \$1000 new — but it will soon pay for itself if you are a frequent diver. A well maintained inflatable does not depreciate as rapidly as an ordinary boat, and once you have one, you probably won't want to sell it.



"I'm not bringing it home it won't let go."

## FAMOUS "SKINDIVER" CUSTOM WET SUITS Only \$54<sup>95</sup>

Order direct and SAVE!  
Satisfaction guaranteed

Men's or women's custom tailored to your measurements with high pants and collar for super warmth. Finest wet suit material, completely nylon lined. Features sewn seams, non-corrosive zipper and twist locks. 1/4" or 3/16" material — mark choice below. Just fill in your measurements and mail with check today. Quick delivery. Your choice of thickness.

1/4" 3/16"  
Sex Age  
Height  
Weight

— Ankle  
— Calf  
— Knee  
— Thigh  
— Hips  
— Waist  
— Chest  
— Neck  
— Wrist  
— Forearm  
— Elbow  
— Biceps  
— Ankle to Knee  
— Ankle to Crotch  
— Ankle to Waist  
— Shoulder Seam to Crotch  
— Wrist to Elbow  
— Center of back to Wrist  
— Wrist to Armpit

— Hat Size  
☐ GLOVES \$8.95  
☐ BOOTS \$9.95  
☐ HOOD \$8.95

MEN OVER 235 lbs. ADD \$15.00  
WOMEN OVER 180 lbs. ADD \$15.00

Add \$4.00 Postage & Handling SORRY, NO C.O.D. (\$5.00 Canada, plus currency exchange) Clip and Mail This Handy Coupon Today! To: Skin Diver Wet Suits  
1632 S. 250th  
Kent, Washington 98031

Name

Address

City

State

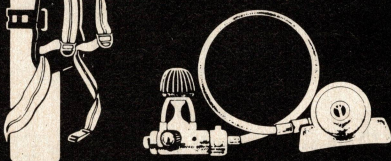
Zip





## DIVING LUNG SETS

Our famous DOT 72 cu. ft. approved steel tank, boot, back pack.



Price includes Tank, Valve, Back Pack & Boot, with your choice of any of the following Regulators:

Nemrod	\$130.
Scubair	\$140.
Seamco Sherwood 4000J	\$150.
Dacor 100	\$150.

AQUARIUS	AQUA-LUNGS	\$150.
CONSHLEF XII	by	\$170.
CALYPSO	U.S. DIVERS	\$180.

Dacor 200 / Aquamaster	\$180.
Poseidon/MR12/Dacor 400	\$200.
Spinnaker	\$220.

### U.S. Divers Accessories

J Valve	add \$10.
Submersible Gauge	add \$30.
O-Release Pak	add \$10.
Aluminum Tank 72 cu. ft.	add \$40.
80 cu. ft.	add \$50.

Come in and visit the greatest Dive Shop in the heart of the greatest city. See the world's newest gear!

**RICHARDS "Aqua-Lung" Center**

233 West 42 Street

Times Square, N.Y. 10036 (212) 947-5018

Mail Order Purchase of Life-Support apparatus must be accompanied by proof of certification.

## INVEST... we'll lend a helping hand with Fishers UNDERWATER DETECTORS



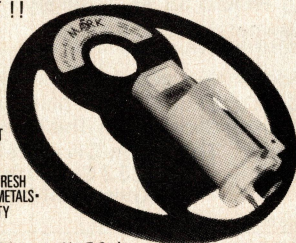
SALT or FRESH WATER • DETECTS ALL METALS • 13" SEARCH COIL • DETECTS A PENNY AT 4" • LARGE OBJECTS AT 4" • 1 MA METER • 9 VOLT BATTERY • SINGLE KNOB CONTROL • SWITCH • TWO YEAR WARRANTY

**MARK 3**  
\$245

Of all the dives you have made, of all the territory you have covered, you have already passed hundreds of \$\$ in valuables. You'll never miss again if you dive with a Fishers detector. We have learned through the years from our many customers that it really is there for the taking, the rings, coins, motors, anchors artifacts, etc. Why aren't you getting your share? Precious & non precious metals alike can be turned to your profit. This is the time to INVEST !!

**MARK 5**  
\$350

18" SEARCH COIL • EARPHONE and 1/2" METER • SURPLUS POWER 9VOLT BATTERY • DETECTS A PENNY AT 4" • LARGE OBJECTS 5' • 2" • SALT or FRESH WATER • DETECTS ALL METALS • TWO YEAR WARRANTY



J. W. Fishers Mfg. Co. • SEE YOUR LOCAL DIVE SHOP  
ANTHONY ST. - TAUNTON, MASS. 02780 • OR WRITE FOR INFORMATION.  
Phone (617) 822-7330 Dept. SD



photography by Author

Amidst much pressure from legal authorities and the occurrence of several recent scuba drownings in Ginny Springs, Robert (Bob) Wray, owner of the property, was forced to close it and its sister spring, Devil's Eye. On a recent trip to North Florida, the National YMCA Center for U/W Activities' diving officer, Ike Ikehara, and I met Bob and discussed the probability of reopening the springs. To our surprise and delight, he was quite interested in retaining the diving in both springs. Bob is a diver, and was a cave diving student in the August cave diving course offered through the National YMCA Center. He had already diligently researched methods to safely reopen the springs. The method of most promise was to install a grate sealing off the complicated maze, which was the area where all the drownings have taken place. Ike and I agreed to look at the feasibility of a gate at the proposed site and to advise Bob on possible relocation. Upon our inspection dive, we advised that owing to the difficulty of placing the grate at the original proposed location, and the fact that it still allowed an area for divers to get into trouble, that the grate be located just forward of the tonsils. This allows the most beautiful area of Ginny Springs to remain open for diving. This gives dive instructors in the area a perfect site for checkout dives as the water is always crystal clear, regardless of weather conditions.

Prior to actual installation of the grate, Bob called a meeting of leaders in the cave diving field. Present were Tom Mount, training director of the National YMCA Center for U/W Activities, David Desautels, executive director of the National Association for Cave Diving, David Fisk, hydrogeologist, Swanee River Management District, NACD Diver, Dave Malloy, president, NACD and member of the YMCA Cave Diving Committee, Jimmy Wyatt, PADI-NACD Instructor (Roy Dickens of PADI had been invited to represent the PADI cave diving interest, but was unable to attend), Ike Ikehara, diving officer, National YMCA Center for U/W Activi-

ties, and Jim Fishback, YMCA Instructor. All at the meeting agreed on the installation and location of the proposed grate. The second point on the agenda was: who could dive Ginny Springs? The decision was, any certified diver or instructor with a class, provided they are properly equipped. Equipment for the dive is a regulator with a submersible pressure gauge, a safety vest or BC, mask, flippers, a light if they plan to enter the second room, and a dive buddy. Additionally, each diver must sign a waiver prior to diving; these are available at the springs.

The next issue of major importance was to discuss access to Devil's Eye. All at the meeting agreed Devil's Eye is a complex system and should have controlled diving. To initiate this control, it was agreed that anyone allowed to dive it must be a certified cave diver. At the recommendation of the National YMCA Center for U/W Activities Training director, Tom Mount, all national diver certification programs that have a diver certification will be recognized. In addition to being a certified cave diver (this requirement will not be waived regardless of experience) each diver must have a waiver signed by both himself and his next of kin, and secondly, the diver must have a log of at least 50 dives, of which 20 must have been cave dives. To dive Devil's Eye, each diver must have two lights, knife, octopus or pony bottle or ideal type manifold (i.e. Selpac- or Nimrod-type double valve), a buoyancy compensator, knife, submersible dive tables, depth gauge, watch, safety reel, and wet suit. In performance of dives, a safety reel per each dive team must be used. A dive team cannot exceed three people nor be less than two. Class waivers for teaching cave diving courses are available to certified cave diving instructors. These waivers are available at Ginny Springs Campgrounds. At the suggestion of Dave Desautels, executive director of NACD, an advisory committee was formed to be available to Mr. Wray for use at his discretion. It was agreed that all nation-



# SKIN DIVER BINDER



Put an end to lost and torn magazines. Save and protect all your valuable issues of SKIN DIVER Magazine in this permanent volume.

These durable binders are made of simulated leather with gold embossed title on the cover and spine and make an attractive addition to your library. Time to get rid of that unmanageable stack of loose magazines in your living room or study. Each binder securely holds 12 issues of SKIN DIVER Magazine, neatly organized at your fingertips for ready reference.

Durable, attractive, and economical—order several for your collection.

**Only \$7.00 EACH**  
**3 for \$17.50 or 6 for \$30.25**  
**SAVE 10-20%**

Prices effective through December 31, 1977  
 (Prices include shipping and handling)

## PETERSEN LIBRARY BINDERS

6725 Sunset Blvd., Los Angeles, CA 90028

Send me \_\_\_\_\_ SKIN DIVER Library Binders @ \$7.00 ea., 3 for \$17.50, 6 for \$30.25 (Postage and handling charges included. Calif. residents add 6% sales tax). My check or money order for \$ \_\_\_\_\_ is enclosed.

TO AVOID DELAY—PRINT CLEARLY

NAME \_\_\_\_\_  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_  
 STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Allow 4-6 weeks for delivery 877SD

al certification agencies with a cave diver certification program would be allowed one member on this committee.

Next came the installation of the grate. The National YMCA Center agreed to perform this service under the supervision of Tom Mount and Ike Ikehara. Divers participating in the installation were Tom Mount-YMCA; Ike Ikehara-YMCA; Jim Nangle, diving supervisor for Marine Acoustical Research Inc., also a YMCA diver and cave diver; Leon Morrison of Marine Acoustical Research Inc., Jim Fishback of Geologic Survey of Illinois, YMCA Instructor; and Jimmy Wyatt-PADI-NACD instructor. Volunteer divers who also participated were Wes Skiles, NACD diver; Doug Clark, NACD-PADI; Bob Adams, winner of the 1975 Our World Underwater Scholarship and YMCA instructor; Bill Downey, YMCA instructor, and cave diver; and Jeannie Simmons, YMCA cave diver. All the above are certified cave divers or instructors through NACD.

In celebration of the reopening of the springs, cave diving certification courses sponsored by the Center for Underwater Activities were taught by Tom Mount and Ike Ikehara in November and December, 1976. The course was based at Ginny and Devil's Eye Springs, with dives in various other springs. It was a six-day program, which in addition to lectures and open water work, included 12 cave dives.

This action is one positive step where a conscientious property owner and divers worked together to ensure safe diving and to enhance the quality of life for diving. It is hoped that other property owners will share Mr. Wray's enthusiasm and willingness to allow divers to continue to dive their springs.

Bob Wray has exciting plans for Ginny/Devil's Eye Springs property with at least 200 acres strolled out along the scenic Santa Fe River. He intends to transform it into a park. This park will be unique in that it is spread out and retains the look and atmosphere of its natural environment. The park has new bath houses, picnic shelters, 50 campsites, with water and electricity, nature walks and canoeing. A small dive shop and grocery store will be located there.

Ginny Springs Park offers an excellent area of convenience for instructors and their classes, for families, and for divers in general. Bob invites and welcomes all who are either certified divers, students, or those wishing just to camp out, or canoe and enjoy nature on their own. For detailed information write: Robert Wray, c/o Ginny Springs Recreation Park, Rt. Box 153, High Spring, Florida 32643.

For information on the referenced cave diving courses write: National YMCA Center for U/W Activities, P.O. Box 1547, Key West, Florida 33040.

If you *have* to work ...

## ENJOY YOUR CAREER!



### • PROFESSIONAL DIVING INSTRUCTOR COURSE #420:

An intensive 12-week residence course. Learn to teach diving and underwater photography, repair equipment, and compete in retail sales. Placement service provided. Both men and women needed now!

### • DIVE BUSINESS MANAGEMENT COURSE #620:

Start your own business... successfully. Learn new inventory and instruction methods, new advertising and sales ideas. We'll help you get started or solve your current problems. Industry tested systems; alumni proven results.

Approved by State, VA, PADI & SSI.

Write or telephone for information on:

\_\_\_\_\_ #420 \_\_\_\_\_ #620

(please enclose \$1 for College catalog)

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

SD877



**Ed Brawley's  
Professional Diving  
Instructor College**

598 Foam St., Monterey, CA 93940 (408) 373-1379



# The Ultimate Safety System

## PONI™ BOTTLE BY DEW

### WHAT WOULD YOU DO IF:

Your 1st stage jammed • Your "O" ring blows, there goes your air supply • Your 2nd stage sticks in an uncontrollable free flow, there goes your air supply • Your S.P.G. goes off calibration and you run out of air • Your "J" valve freezes and you're out of air • Your "J" valve spring fatigues and does not hold any reserve • You're decompressing and you run out of air • One of your hoses blows, there goes your air supply • A piece of rust or crud clogs the intake of your valve, no more air • Ask any New Jersey Wreck Diver • Ask any Florida Cave Diver. Ask **ANY** diver who believes in safety. Ask any diver what good an octopus is when there is no air left in the tank!



- More air than the reserve on an Aluminum 80
- 100% Rust FREE
- Lightweight aluminum, lighter than steel.
- Walls twice as thick as steel.
- Economical, long lasting.
- Stronger on a pound for pound basis than standard steel.
- Straight 3/4" threads for easy visual inspection, & reduced thread wear.
- "O" ring seal means no need for teflon tape, no need for vises or large wrenches to remove valve.
- Unlike steel cylinders, the pressure rating for aluminum cylinders does not decrease after the first hydro.
- For safety and visibility -- available in yellow, orange or brushed aluminum (as in photo)

For the location of your nearest **DEW** Dealer call (800) 221-0770.

In N.Y.S. call (212) 939-9600.

Mail Order Purchase of Life-Support apparatus must be accompanied by proof of certification.



**All your Sport Diving needs can be satisfied at your Local**

**Professional Dive Center. For**

**the location of your nearest **DEW****

**Franchise call (800) 221-0770.**

**In N.Y.S. call (212) 939-9600.**



## Diver Rescue Workshop

On October 8 and 9, 1977, Santa Rosa Junior College will be the site of a Rescue Workshop open to all certified scuba divers and instructors age 18 and up.

Workshop objectives are to train divers in rescue techniques, make individual divers aware of their own limitations and to stress a diver awareness that will help prevent the need for rescues.

NAUI Instructors Jack Witt and David Nagle are the directors of this event which is supported by NAUI, PADI, Los Angeles County, YMCA, NASDS, and the U.S. Coast Guard Auxiliary.

Guest speakers for the pool, ocean and classroom include: Chris Dueker, M.D., on the medical aspects of sport diving; Steve Webster, Ph.D. on marine biology; Jeff Hammett, head diving instructor and teaching specialist at Stanford University on basic life support; and Stu Seiff, boating safety instructor for the U.S. Coast Guard Auxiliary on boating safety. David Nagle, a member of the Sonoma County Underwater Recovery Team, will discuss the unique hazards for divers in the county. Jack Witt will lend his expertise on diver rescue gained from organizing and conducting several other rescue seminars recently.

Saturday, October 8, 1977, the workshop will meet at Santa Rosa Junior College. Sunday, October 9, the workshop will meet at Stump Beach in Sonoma County for open water training.

Registration fee for the workshop is \$15 payable in advance. Profits from the workshop will be donated to the Sonoma County Sheriff's Office for the Underwater Recovery Team. Plans are to purchase an inflatable craft for the team's use.

Applications and registration fees should be mailed to Sonoma County Diver Rescue Workshop, 875 Ilima Court, Palo Alto, Calif. 94306, by September 24, 1977. Include a self-addressed envelope with 26 cents postage in order to receive all the additional pre-course information.

## Sportsways Distributor

Sportsways, a division of Pittman Rubber Company, Huntington Park, Calif., has announced that the following company has been appointed the exclusive Hong Kong distributor for Sportsways entire line of dive equipment:

Bunn's Diving Equipment Corp., Ltd., 306A Hennessy Road, Wanchai, Hong Kong. Kowloon Branch: 167 Sai Yee St. Mongkok.

Bunn's will cover the whole Hong Kong territories, including Hong Kong Island, Kowloon Peninsula and the New Territories which are connected to mainland China.

## Over 100 Pages of Color Cover to Cover



Available at your local professional dive shop or by subscribing today!

The Journal of Sport Diving

# Sport Diver

MAGAZINE

103 CENTURY 21 DRIVE  
SUITE 120  
JACKSONVILLE, FL 32216

At last, a progressive new magazine for the sport diver, packed with 132 color pages of information on the adventurous activities of diving including:

- International travel, bringing closer the far away and not so far tropical islands.
- Local dive spots, a look at exciting areas throughout North America, accessible to everyone.
- Special interest, like underwater photography and wreck and cave diving.
- Profiles of people making significant contributions to the diving industry.
- Scientific exploration, new research, reviews and much, much more!

Don't miss another issue! Fill out a subscription today!

Please enter my order for a 1 year subscription to SPORT DIVER. (6.95 for 4 issues, U.S. possessions and territories. All other countries add \$2.00 for postage.)

NAME \_\_\_\_\_

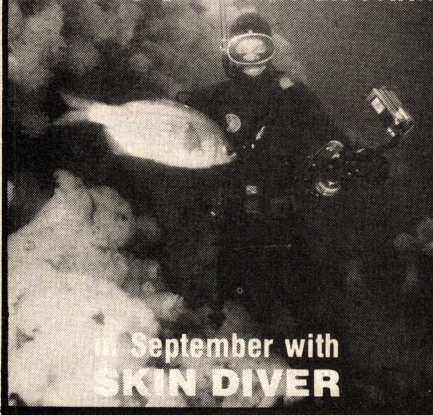
ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

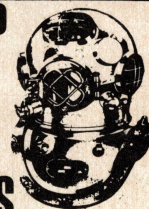
COUNTRY \_\_\_\_\_ ZIP \_\_\_\_\_

## DIVE INTO PUGET SOUND'S EDMONDS UNDERWATER PARK



September with  
SKIN DIVER

## HOW TO SET UP AND RUN YOUR OWN DIVING BUSINESS



Comprehensive report on how to run your own Diving Business from two professional divers with 45 years experience in the business. Enjoy 40 to 50 thousand dollars a year as an independent diver. Take the guess work out of starting your own business, take advantage of our years of do's and don'ts.

Send \$9.00 post paid in the U.S.A. to:

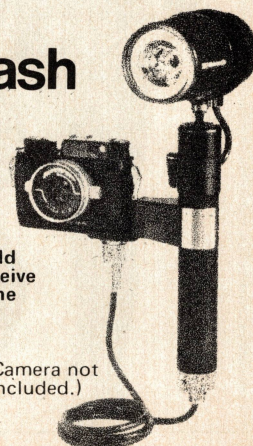
JOHN GESCHREY, P.O. BOX 526  
MORTON GROVE, ILLINOIS 60053

## Sunpak Marine 28 Underwater Electronic Flash \$199<sup>50</sup>

For use at depths to 328'. ASA 100 guide number of 80 on land; 40 underwater, permitting flash-to-subject distances of 16' with f2.5 lenses. Unique safety mechanism shuts off current, flashes alarm light if leakage occurs. One-touch quick-release bracket and freely-adjustable flash head for precise flash positioning. Complete with shutter cord for Nikonos camera. To order, phone or write. Add \$3.00 shipping charge; specify whether for Nikonos II or III. To receive our catalog of underwater photographic equipment, send \$.50 to the Helix Underwater Department.

# HELIX®

325 West Huron Street, Chicago, Illinois 60610  
312/944-4400



(Camera not included.)



## PRO DIVE SHOP/SCHOOL GRAND OPENING! PISCES SCHOOL OF DIVE

We are a professional, full service Dive Shop and Scuba School located on Lake Ontario in the heart of the fabulous Finger Lakes. We'll be celebrating our Grand Opening all summer with these incredible prices.\*

USD-1 SYSTEM #1093 .....\$475.00  
USD SPEC. PACKAGE  
(SEE SDM 6/77 PG. 24) ....\$374.95  
MARINER II #0836 .....\$ 19.95  
USD CONSHOLF XII #1081 ....\$ 81.25  
PRO-DIVE I CPG #7036 .....\$ 32.75  
USD 80' CU. ALUM. TANK #0749  
W/K VALVE .....\$109.85

\*Equipment sold to walk-in trade only. Sorry, absolutely no mail orders please!

- Try before you buy in our 32' dive tank
- Give your non-diving friend a trial scuba lesson — \$5.00
- Watch September SDM for super savings on gear



**PISCES SCHOOL OF DIVE**  
781 Fairport Rd.,  
E. Rochester, N.Y. 14445  
(716) 381-4209



### SCUBA DIVERS Looking For Safer Diving Gear?

**Price \$398.00**—Including hoses and 2 demand regulators, five models. For free brochures, send self-addressed, stamped envelope.

**W. C. BROWN COMPANY**  
2370 SE 11th St., Pompano Bch., Fla. 33062  
Ph. 305/942-3205  
"Mail order purchase of life-support apparatus must be accompanied by proof of scuba training and certification."

## See-worthy Patches



... designed for and by fellow watersport buffs. Order by number from A-B Emblem, at \$1.00 each. FREE Design-an-Emblem Guide sent with each order to help you create your club's own patch. As specialists in custom emblems, we'll return a quotation on your design, without obligation.

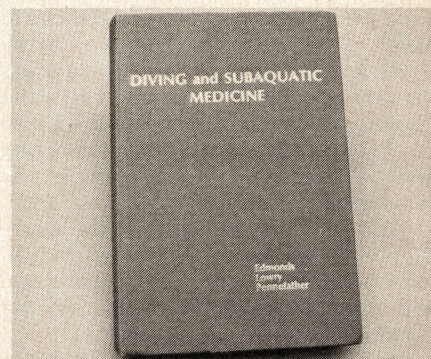
**A-B emblem**  
Division of CONRAD INDUSTRIES  
1 Weaverville Highway  
Box 40695 Weaverville, N.C. 28787

## Book Review Diving Medicine

By Charles V. Brown, M.D.

The young, growing specialty of underwater medicine requires frequent updating of its teaching materials. *Diving Medicine* edited by Richard Strauss, M.D., is its newest and most complete textbook. Twenty-one authorities from four English speaking nations — England, Canada, Australia, and the U.S.A. — utilize about 400 pages to develop their subjects. These range from history and basic sciences through various aspects of diving to the disorders and their treatment. While the emphasis is on sport diving, areas of related interest such as saturation and marine mammal adaptations have been included. Each chapter is thorough yet concise, clear, and highly readable.

Diagrams and black and white pictures are few, presumably to reduce publica-



tion costs, but are well chosen. References to the literature are extensive, and the index is excellent. There are useful appendices which cover pressure conversion factors, U.S.N. decompression and treatment tables, altitude tables, medical exam forms, and ten actual case histories. A unique feature is the inclusion of study questions after each chapter, with answers in the appendix.

Though aimed primarily at the physician, this text will be useful to the diving instructor and other interested laymen. It may be ordered from Grune and Stratton, 111 Fifth Ave., New York, N.Y. 10003. At \$21 the copy is not cheap, but a very good value.

## Hyperbaric Unit in Santa Ana

The Santa Ana-Tustin Community Hospital has a hyperbaric unit available. Staffed by a team of hyperbaric medicine physicians, the unit is open 24 hours a day for treatment of dive emergencies and other pressure-related problems. The hospital is at 1001 N. Tustin Ave., Santa Ana, Calif. Call 714/835-3555, extension 1469, or ask for the nursing supervisor.

**skin diver** takes you where the  
**EAST COAST LOBSTERS** play  
FIND OUT in September

## A great wet suit is the sum of its parts



- Exclusive Velcro® cuff and ankle closures
- Extra-long "GI" tough nylon zippers — full length on pants; extra front zip on jacket for perfect snug fit.
- Exclusive "bent-knee" design allows maximum freedom for swimming.

Our "Complete Line" of custom or stock suits from 1/8" thru 3/8" — are specially tailored with an attention to detail not found in any other suits. Its this meticulous craftsmanship coupled with State-of-the Art innovations that make our suits the choice of discriminating divers.

Get the complete Henderson line-up. Write now for our Big '77 catalog. \$1.00

**HENDERSON AQUATICS, INC.**  
Buck & Sassafras Sts. • Millville, N.J. 08332

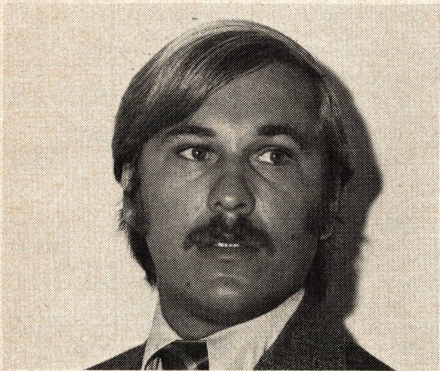
NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**HENDERSON AQUATICS, INC.**  
**'77**



## Lucas to Rep Added Equipment

Jim Lucas of Jim Lucas and Associates, a Miami-based manufacturer's representative of dive equipment in the Southeast U.S. announced the addition of some



new lines of equipment. Along with Sportsways, Serl Underwater Lights and Princeton Tectonics, Lucas will also represent Parkway/Poseidon, Sea View Underwater Systems, Pelican Products and Scott John Industries. The states covered include: Florida, North and South Carolina, Georgia, Tennessee, Alabama and Mississippi. Lucas also represents Sea Quest in Florida, Georgia, Alabama and Mississippi. Any dealers interested in any of these products may contact: Jim Lucas and Associates, P.O. Box 431567, Miami, Florida 33143

## Chodak Parkway Sales Mgr.

Keith Chodak has been appointed Mid-Atlantic regional sales manager for Parkway Fabricators. During the past two years Keith has been employed at



Parkway as Plant Industrial Engineer.

Many of Chodak's efforts were directed toward design and production of the new products offered by Parkway for 1977. He is a graduate of Newark College of Engineering (New Jersey Institute of Technology), receiving a Bachelor of Science degree in Industrial Engineering in 1975.

Keith is a certified diver. His product knowledge and plant background will make him a valuable asset to the Parkway/Poseidon sales team.

# BE A DIVEMASTER — THE DIVER'S LIFEGUARD

You — as a Divemaster — can be an underwater guide, boatmaster, safety officer, and diving travel guide.

The Divemaster rating is for you if you have a genuine desire to work with clubs, instructors, groups, resorts, and charter boats in a leadership capacity.

PADI's new Divemaster course trains experienced divers to plan, organize, and conduct safe open water dives. Attractive credentials are awarded for the Divemaster rating by the Professional Association of Diving Instructors. After you have acquired the Divemaster rating, you are eligible to earn the highest certification in sport diving — the PADI Master Scuba Diver award.

Mail the coupon — or visit your local PADI Training Facility for Divemaster course information.



Mail to: PADI DIVEMASTER  
2064 N. Bush St., Santa Ana, CA 92706

Please send the following:

- ☐ Free information on becoming a Divemaster
- ☐ Divemaster Manual — enclose \$3.55
- ☐ PADI Training Manual — enclose \$20.00

Please print: Calif. add 6% sales tax.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Make check or money order payable to PADI

**PADI** NUMBER ONE IN DIVER EDUCATION

## DOES YOUR NIKONOS NEED REPAIR?



Have your Nikonos I, II or III checked and repaired by factory authorized repair service. Repairs on all photo equipment. Free estimates.

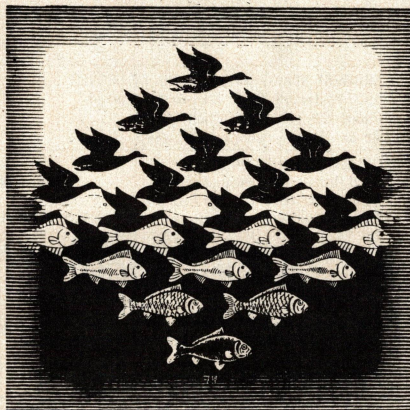
Special Offer: Send this ad and save 15% off repair.

Kipling's Camera, Inc.  
331 W. Merrick Rd.,  
Valley Stream, NY 11580  
(516) 561-1640-1646

## DIVE BOAT FOR SALE

SUCCESSFUL SCUBA DIVING CHARTER BOAT AND BUSINESS FOR SALE IN MONTEREY, CALIFORNIA. COAST GUARD CERTIFIED SKIPPER ALREADY ON BOARD. CONTACT 408-446-4066

## THE ULTIMATE "TRIP"



## IS INSIDE YOUR HEAD

M. C. Becker, Sky and Water. Courtesy © G. W. Breughel/Reprinters, Utrecht, Holland

KEY EXPERIENCES\* is for the aware person ready to learn and to savor, who wants to inch back into the academic swim with the help of experts — if studies are of personal interest. It's for anyone who knows that the Ultimate "Trip" takes effort, but is worth the work, for it boosts zest for living while shaking off boredom. When writing for details, briefly describe your skills and how you would like to upgrade them. Then we can let you know exactly how we can help.

WRITE TO: Dave Harte, Coordinator, KEY EXPERIENCES, P.O. Box 1081, Key West, FL 33040.

\*Operated by Learning Exchange Inc., a non-profit firm licensed by State of Florida, in cooperation with Florida Keys Community College. Credits are transferable at 1st and 2nd year levels to most colleges.

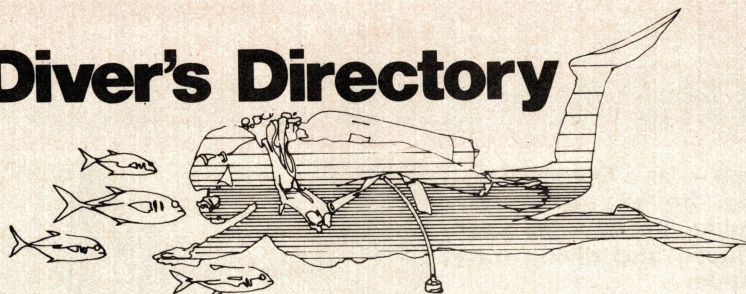
## 7 days/6 nights KEY WEST'S KEY EXPERIENCES

**\$155<sup>00</sup> TUITION includes:**  
(Non residents add \$15.00 per credit)

- 3 CREDITS from FLORIDA KEYS COMMUNITY COLLEGE for a project based on personal interests.
- Local PROFESSIONAL ARTISTS & SCIENTISTS as resource persons.
- 7 DAYS/6 NIGHTS at KEY WESTER MOTEL — AAA RATED.
- ALL MEALS — including first night POOLSIDE BARBEQUE.
- One Half-Day REEF TRIP.
- DISCOUNTS on Air Fills, Dive Trips.



# Diver's Directory



Advertising rate is \$55 for three consecutive ads, \$90 for six consecutive ads \$140 for a full year. PAYMENT MUST ACCOMPANY COPY. Send all material to Diver's Directory, % Skin Diver, 8490 Sunset Blvd., Los Angeles, Calif. 90069.

## ALABAMA

DAVEY JONES' LOCKER (205) 479-2550  
424-A Dauphin Island Parkway, Mobile, Alabama 36606  
Y.M.C.A. - P.A.D.I. - Instructors, Equipment, Sales, Service & Rentals - Charter Boat Trips, Vacation Excursions

## ALASKA

DIVER'S WORLD 907/274-9421  
1534 Gambell Street, Anchorage, Alaska  
Certification - Sales - Repair - Rental  
Hydros - Air Fills - Gold Dredging Equipment

ALASKA AQUATIC DIVE CENTER 503 Water Street  
NASDS—Instr.—Full Svs Scubapro Shop—Air—Rntls.  
2 Man Chmbr—Hydro & Tumble—Boat Trips—Catalog S1s  
C card reqd—Ph. 907/225-5020, Bx 5020, Ketchikan AK

## ARIZONA

AQUA-SPORTS  
4230 E. Indian School Road, Phoenix, Arizona (955-4120)  
12644 N. 28th Dr., Phoenix, Arizona (942-9230)  
Instruction - Air - Rental - Sales - Trips

ARIZONA DIVERS SUPPLY, INC. 602-265-9325  
1811 East Indian School Road, Phoenix, Arizona 85323  
Rentals - Dive Trips - Instruction - Sales  
Repair - 3500 PSI Air Station

TUCSON SCHOOL OF SCUBA DIVING — SCUBA COVE  
3575 East Speedway, Tucson, Arizona (602) 795-1440  
Sales - Service - Instruction - NASDS  
Photo Courses and Equipment - Indoor Pool - Trips

## CALIFORNIA

CALIFORNIA SKINDIVING SCHOOLS  
9762 Magnolia Ave., Riverside 714/689-2422  
1173 N. "E" St., San Bernardino 714/885-1416  
EQUIP. SALES, RENTALS, REPAIRS, AIR

CALIFORNIA SKINDIVING SCHOOLS  
1083 N. Harbor, Anaheim 714/991-DIVE  
4420 Holt Blvd., Montclair 714/621-4171  
COMPLETE INSTRUCTION IN OUR OWN POOLS

ARCADIA POOL & DIVE  
21 W. Duarte Road, Arcadia, Calif. 91006 447-8181  
Scuba Pro - Surfboards - At-Pac - Bayley Suits  
Supersuit - Photography - Charters - NASDS

BAMBOO REEF ENTERPRISES  
1111 University Ave., Berkeley, Calif. 415/548-7560  
584 - 4th Street, San Francisco, Calif. 415/362-6694  
NAUI - PADI - Rentals - Air

SUNLAND SPORTS - DIVE SHOP  
8677 Wilshire Blvd., Beverly Hills, Calif. 652-4990  
Sales - Rentals - Repairs - Air Fills - 4000 PSI  
Certified Instruction L.A. County - NAUI - PADI - Dive Trips

BAMBOO REEF ENTERPRISES  
2110 Winchester Blvd., Campbell, Calif. 408/374-8411  
1959 W. San Carlos, San Jose, Calif. 408/275-1696  
NAUI - PADI - Rentals - Air

PROFESSIONAL S.C.U.B.A. REPAIR  
5725 Cahuenga, North Hollywood, Calif. 91601 769-1484  
Professional Repair is Our Only Business  
Servicing All Makes & Models of Equipment

LAGUNA SEASPORTS  
925 N. Coast Highway, Laguna Beach (714) 494-6965  
1951 Newport Blvd., Costa Mesa (714) 645-5820  
NAUI - PADI - RENTALS - AIR

NAVARRO NIKONOS REPAIR  
P.O. Box 577, Campbell, Calif. 95008  
Quality Prompt Service  
Write for Free Brochure and Information

O'BRIEN'S SCUBA SCHOOL & EQUIPMENT  
37313 Maple Street, Fremont, CA 415/796-8696  
NAUI — RENTALS — REPAIRS  
5000 psi AIR STATION

LAGUNA SEASPORTS\*  
7066 Van Nuys Blvd., Van Nuys (213) 787-7066  
18503 Hawthorne Blvd., Torrance (213) 542-8609  
3335 Motor Ave., West Los Angeles (213) 559-7771

SAN CLEMENTE DIVING CENTER  
129 Los Molinos, San Clemente, Calif. 92672  
Sales - Rentals - Repair - Air - 4000 PSI  
Instruction - Hydro - Charters 714/496-2444

CATALINA DIVERS SUPPLY  
Avalon, Catalina Island 90704 "Avalon" 330  
Rentals - Sales - Air - 2 Locations  
Pleasure Pier & Avalon Underwater Park

DIVING LOCKER 1020 Grand, San Diego 714/272-1120  
155 So. Highway 101, Solana Beach 714/755-6822  
348 E. Grand, Escondido 714/746-8980  
1148 Delevan Dr., San Diego 714/231-8331

NEW ENGLAND DIVERS — LOS ANGELES  
11830 W. Pico Blvd., West Los Angeles (213) 477-5021  
Take Bundy off Santa Monica Freeway to Pico Blvd. Open  
7 days. Mon.-Sat. (8:30 a.m. to 9 p.m.) Sun. (8:30 to 6)

AL'S SPORTING GOODS  
750 Price Street, Pismo Beach, CA 773-4794  
Front of Pier Cayucos, CA 995-3748  
Air - Instruction - N.A.U.I.

NEW ENGLAND DIVERS — SAN DIEGO (714) 298-0531  
3860 Rosecrans Street, San Diego, Calif.  
Open 7 Days - Where Interstate 5 and 8 Meet  
The World's Largest Distributor of Diving Equipment

CHARTER THE SEA VENTURES BOAT  
2805 Palma Drive, Ventura, Calif. 93003 805-486-0403  
805-647-0167  
Dive the Super Channel Islands

## COLORADO

MIDWEST DIVING SCHOOLS, INC. OF DENVER  
1920 Wadsworth Blvd., Lakewood, Colorado  
Phone 232-2400 - Instruction - Repair  
Rental - Retail - Hydrotesting - Travel

COLORADO SCUBA SCHOOLS  
32nd Quebec St., Denver Airport (674-4449)  
Audio-Visual Course, Large Pool and Food Facilities  
Equipment - Sales - Service - Jet Trips - PADI INSTRUCTION

## CONNECTICUT

ALL GAS & EQUIPMENT CO. 522-5197  
3150 Main St., Hartford, Refills - Rentals  
Sales - Service - 1-Day Hydros - Sportsways  
Dacor - Parkways - Imperial - Ikelite

ORBIT MARINE SPORTS CENTER (203) 333-DIVE  
3273 Fairfield Ave., Bridgeport, Conn. 06605  
Tel. (203) 333-DIVE - Sales - Rentals - Air - Dive Trips  
Hydro - NAUI Instruction - Visual Inspection. Open All Year!

UNDERWATER SWIMMERS, INC. (203) 932-0258  
526 Main Street, West Haven, Connecticut  
Scuba Lessons, Equipment Supplies, Air, Repairs,  
Commercial Work, Rentals, Hydro Testing.

SEA WOLF DIVER'S SUPPLY Phone 873-8135  
Town Street, Route 82, East Haddam, Conn. 06423  
Sales - Certified Instruction - Rentals - Repairs - Air  
A Full Service Dive Shop

INNERSPACE DIVING SUPPLY CO., INC.  
598 Center St., Manchester, CT (203) 646-2352  
Air - Sales - Rentals - Repairs - Hydro - Planned Dives  
Certified Instruction in all levels-NAUI-PADI-YMCA

SCUBA SHOPPE (203) 377-6969  
Foot of Broad St., Stfd. Marina, Stratford, CT  
Professional Instruction - All Levels  
Full Service, Dive Trips, Open 7 Days - All Year

THE DIVING BELL (203) 775-3573  
Route 7, Brookfield Plaza, Brookfield, CT  
Sales, Rentals, Repairs, Air Hydrotest, etc.  
Certified Instruction — DIVE LAKE CANDLEWOOD

JACK'S DIVE CENTER (203) 747-3170  
Rt. 10, Plainville, Conn. 06062  
Sales - Service - Instructions - Rentals - Trips  
5,000 PSI Air - AGA Divator - HOME OF FREE DIVES

SURPLUS TRADING POST, INC. 799-2037  
153 Boston Post Rd., Orange, CT  
Air, Repairs, Sales, Hydro-Tests-Instruction  
Mon.-Fri. 8:00AM to 8:00PM; Sat. 6:00PM

TRI-CITY DIVERS 872-6547  
Route 30, Post Rd. Plaza, Vernon, Ct - Exit 96 off I-86  
Sales - Rentals - Repairs - Air - Instruction - Trips  
NAUI - PADI - Noon to 8 Daily, Sat. 10 to 5:30

A-1 DIVING CENTER 755-9772 or 756-8451  
863 Meriden Road, Rt. 66, Waterbury, Conn. 06705  
Hydrotests - Repair - Rentals  
Certified NAUI & YMCA Instruction-Wholesale & Retail

WILL JACOBS DIVE SHOP Ph. (203) 232-8719  
1153 New Britain Ave., West Hartford, Conn. 06110  
Instruction — Rentals — Repairs  
Sales — Hydrotesting — Refills

## FLORIDA

UNDERSEAS, INC. (305) 872-2700  
Box 319, U.S. 1, Big Pine Key, Florida 33043  
Equipment - Air - Rentals - Repair - Reef Charters - Shelling  
Guides - Photo - Spearfishing - Tropical Fish Collecting

MILEO PHOTO SUPPLY, INC.  
2105 Ponce de Leon Blvd., Coral Gables, Florida  
Toll-Free In Florida - 1-800-432-2384; Miami 446-0855  
Underwater Photo Equipment and Supplies

PLANTATION INN MARINA 904-795-5797  
Box 1093, Crystal River, Fla. 32629 - Rental - Boats - Sales  
Canoes - Scuba Night Diving - Package Deals - Private Dockage  
at divers giant spring. Golf/Tennis - 100 room hotel

BAHIA LODGE MOTEL (305) 852-2361  
Box 537, Tavernier, FL 33070 on Key Largo at U.S. 1  
Mile Markers 95-94, 10 mins. to Pennekamp. Cottage units &  
efficiencies. Swimming, Boat ramp. A/C. TV.

COME DIVE WITH ME in my back yard in Central Florida  
25 minutes from I-75. Stamped envelope for information to  
B.G., Route 2, P.O. Box 460-B, Williston, Florida 32696 or  
(904) 528-6684 Person to Person

REEFCOMBER RESORT MOTEL  
The "Inn Spot" in Coral Reef State Park area.  
Box 10, Key Largo, Florida 33037 (305) 852-5334  
Reasonable Rates - Freshwater Pool - Family Units

ROBBY SPORTING GOODS, INC.  
Bradenton, Tampa & Sarasota  
Retail - Wholesale  
Rentals & Instruction

HERB'S DIVE SHOP 253-7221  
2434 S. Atlantic Avenue (AIA), Daytona Beach, Florida 32018.  
Full Diver Service — Group or Private Classes  
Trips: Reef - Springs - Bahamas - Reef - Springs - Bahamas

SEA DWELLERS DIVE CENTER 305/451-3640  
Formerly Largo Kamp Dive Center  
P.O. Box 1796, Key Largo, Florida 33037  
Dive Charters - Air - Rentals - Instruction

PROFESSIONAL DIVING SCHOOLS OF FLORIDA  
210 N. Federal Highway, Deerfield Beach, Florida  
Professional Instruction - Sales and Service  
Diving Trips - Air Fills — 428-0560

REEF RAIDERS DIVE SHOP U.S. Hwy. #1  
Stock Island, Key West, Fla. 305-294-0660  
Two Reef Trips Daily - Wreck and Night Diving  
Air-5000 PSI. Rntl and Sales on all diving equip.

DIVING TRIPS, INC., FT. LAUDERDALE  
4565 SW 37 Avenue, Ft. Lauderdale, Florida 305/966-7775  
Dive Beautiful Coral Reefs and Wrecks  
Aboard the "SCUBA TOO" Captain Joe Schirck

KEY COLONY DIVERS, INC. (305) 289-1141  
Florida Keys - Box 49 Key Colony Beach 33051  
YMCA, NAUI and PADI Instruction  
Reef Trips, 2 Boats, Air, Sales, Rentals

THE DIVE SHOP OF FORT LAUDERDALE (on the beach)  
913 N. Atlantic Blvd., Ft. Lauderdale, Florida 33304  
Phone 305/565-6784 - Air Sales - Rentals  
Repairs - Hydrostatic Testing - Instruction



**KEY WEST PRO DIVE SHOP, INC.** 305/296-3823  
1605 North Roosevelt Blvd., Key West, FL 33040  
Air, Sales, Repairs, Rentals, Instruction  
Daily Reef Trips - Charters to Dry Tortugas

**SEA TRAIL MOTEL, Rt. 1, Box 91, Key Largo, FL 33037**  
Mile Marker 99-98 (305) 852-8001  
Continental Efficiencies - Budget Rates  
V.I.P. Underwater Tours - PADI Instruction

**CAPT. BOB KLEIN'S HOLIDAY INN SCUBA SHOP**  
Key Largo, Florida 33037 305-451-DIVE  
Guided Reef Trips/Cay Sal Blue Hole Dives  
Go First Class aboard the 50' "Plus Ultra"

**MARATHON DIVING CENTER** Marathon Holiday Inn  
dock Marathon, Florida 305/289-0222  
Complete dive center, PADI, daily reef tour, group charters,  
spearfish, tropicals, photos, FUN!

**THE REEF SHOP DIVE CENTER & CHARTER SERVICE**  
Rt. #1, Box 575 S.D.D., Islamorada (Fla. Keys) - Equipment  
Rentals - Sales - Repair - Air - Day/Night Reef Trips  
Dive Boats - Club, Group Packages - FSDA & PADI Instructions

**CAY SAL BAHAMA & TORTUGA GROUP TOURS**  
m.v. BIG WINNER - 77 Pass. - 30 knots - Air Conditioned  
m.v. CAPT. M. L. WINNER - 40 Pass. - 16 knots  
2109 - 31 St., Marathon, Florida 33050 743-6321

**UNDERWATER DESIGNERS COMPANY**  
4591 St. Johns Ave., Jacksonville, Florida (384-3655)  
13637 Beach Blvd., Jacksonville, Florida (246-6729)  
Sales Representative - Rentals - Air - Instruction - PADI College

**DOLPHIN DIVE CENTER**  
US 1, Marker 103, Box 1936, Key Largo, Fla. 305/451-1381  
Complete dive center, PADI, group-club charters,  
Daily reef trips, spearfish, tropicals, photo

**KEY MOTEL** Offers a pkg deal for Fishing - Diving trips. \$30.00  
person dbl Occ. incl. mod. eff. apt. plus 1/2 day trip to Pen-  
nekamp or outer reefs. Free air-tackle, 2 fast boats 26' & 33'  
MM90. Tavernier Bx 103, (305) 852-2351

**HARRY KEITZ'S AMERICAN DIVING HEADQUARTERS**  
Rt. 1, Box 274B (Dept. SD), Key Largo, Florida 33037  
451-0037, Charters to Pennekamp Park - NASDS - NAUI  
Air - Retail - Wholesale - Rental - Motel Reservations

**ROCK REEF RESORT** Phone 305-852-2401  
Box 73, Key Largo, Florida 33037  
5 minutes to Coral Reef State Park. Swimming, Skiing, etc.  
On water. Family units A/C, color TV.

**ANGLER'S DIVE SHOP** (305) 294-9030  
US 1, Stock IS., Key West, Fla. 33040  
Group - Private - Family Reef Trips - Shelling  
Spear Fishing - Photo - Dive Boat Rentals

**AQUA PEER, Divers Serving Divers, Since 1957.**  
We rent Boats & Diving Equip., have Sales & Air & Instruct. Send  
\$1.00 for Map, Decal & Info to AQUA PEER, 267 N.W. 3rd St.,  
Crystal River, FL 32629 (904) 795-2776.

**FRED & CINDY'S ATLANTIS MARINA**  
Florida Keys, Box 708, Long Key, Florida 33001  
Boat Rentals to the Reef - Camping - Motels  
Air - Rentals - Trips - Complete Dive Service

**DIVING SITE** (305) 289-1021  
12565 Overseas Hwy., Marathon, Fla. 33050  
New 40', 20 passenger dive boat  
Group & Charter rates available Air - \$1.00

**DIVER'S HAVEN**  
1530 Cordova Road  
Ft. Lauderdale, Fla. 524-2112  
AIR - TRIPS - SALES - SERVICE

**NEW ENGLAND DIVERS**  
2945 NE 2nd Ave., Miami, Fla. 305-573-4600  
9820 S. Dixie Hwy., Kendall 305-667-4622  
Sales - Rental - Classes - Instruction

**FRIENDSHIP INN — KEY LARGO — PENNEKAMP PARK**  
Box 456, Toll free except Florida: 800-327-8346  
Key Largo, Fla. 33037 (305) 451-1616  
Miami (305) 248-1644. Clubs & Groups.

**SCOTT'S SWIM & SCUBA SCHOOL, INC.**  
3465 Edgewater Dr., Orlando, Fla. 32804  
NAUI - YMCA - PADI INSTR., Retail Sales.  
Underwater Photo Hdqrs. (305) 425-8811

**GINNIE SPRINGS, INC.** (904) 454-2202  
Rt. 1, Box 153, High Springs, Florida 32643  
Crystal Clear Springs, 72". Scuba  
Canoe, Complete camping facilities

**WET SUB & SCUBA TOW EASY-TO-BUILD PLANS.**  
Sub Plans \$10, Tow Plans \$7.95, Prop/motors  
Write for FREE List of products and prices  
SEATECH CORP., 985 NW 95th St., Miami FL 33150

**Matheny's Aquatics Unlimited, INT'L TRAINING FACILITY**  
YMCA-NAUI-PADI-NASDS. TRAVEL Host to FLORIDA  
SPRINGS and CARIBBEAN. FIVE MINS. from JAX  
556 KINGSLEY Ave., Orange Park (Fla.) 904/264-3357

**OCEAN DIVERS INC. — Beautiful Pennekamp Park**  
Reef Ecology Dive  
Diving Packages (Motel & Camping)  
Box 1113-A, Key Largo, FL 33037 PH: 305/451-0286

**COLONNADES UNDERSEA CENTER** 844-5291  
2525 Lake Drive, Rivera Beach, Fla. 33404  
Instruction - Diving, Photo, Marine Biology  
Daily Trips, Sales, Rentals, Accommodations.

**JIM HOLLIS' SCUBA & PHOTO WORLDS**  
5107 East Colonial Drive, Orlando, FL 305/273-3373  
Classes - PADI, FSDA, YMCA  
Sales, Service, Rentals - 24 HR. AIR FILLS

**HOLIDAY ISLE DIVE CENTER**  
Box 482-D, Mile Marker 84½  
Islamorada, Florida 33036 (305) 664-4145

**SUNSHINE KEY AQUA CENTER** 305/872-2400  
Rt. 1, Box 790-L, Sunshine Key, Fla. 33043  
Dive-fish-camp-trailers-rentals & 3500 air-reef  
trips on 65' & 24' boats to LOOE KEY/grp. rates.

## GEORGIA

**DIVING WORLD USA** 634-4354  
2945 Buford Hwy., Atl., Ga.  
All Brands - Whol. & Retail - Repair - Rental  
YMCA, NAUI, PADI Classes 3 Man Chamber

## HAWAII

**DAN'S DIVE SHOP, INC.** 808-946-7333  
1382 Makaloa St., Honolulu, HI 96814  
Hawaii's Complete Sport Diving Center  
Novice - Pro/Charter, Rental, Air, Sales

**SKINDIVING HAWAII — MAUI**  
1993 Kihei Rd., Kihei, HI 96753 (808/879-1558)  
5 day Cert. Course - Daily Dive Charters  
"Hawaii's Oldest & Largest"

**SKINDIVING HAWAII — KONA**  
Box 2064 Kailua-Kona, Hawaii 96740  
Charters, Sales, Rentals, Instruction  
5-day SCUBA class, NAUI (808/329-1328)

**SKINDIVING HAWAII — HONOLULU**  
1651 Ala Moana Blvd. 96815 (941-0548)  
Daily CHARTERS, Sales, Rentals, Instruction  
OLDEST & LARGEST IN THE ISLANDS

**SOUTH SEAS AQUATICS** Ph.: 538-3854, 538-3855  
1125 ALA MOANA BLVD.  
HONOLULU, HAWAII 96814  
Sales-Rentals-Air-Charter Inst. Free Brochure

**HONSPORT** Tel: 949-5591, 487-1517  
Ala Moana Center and Pearlridge Center  
Air, Sales, Service, Rental, Instruction  
By Damron Divers (NAUI) — OPEN 7 DAYS A WEEK

**DIVIN' HAWAII CORP.** (808) 833-2298  
5085 Likini St. Honolulu, HI 96818  
SCUBA & SNORKEL TOURS TWICE DAILY/NAUI & PADI Instr.  
U/W Photography, Free Transport, Beginners Welcome

**GARDEN ISLAND MARINE** Nawiliwili Harbor  
RR Box 180B, Lihue, Kauai 96766 808-245-6361  
Fantastic Diving, NAUI/PADI, SCUBA Charters  
Lessons, Sportfishing, Skiing, Pkg. Tours, Maps

**ALOHA DIVE SHOP** 395-5922  
Koko Marina - Honolulu, HI. 96825  
"GATEWAY TO HANAUMA BAY"  
Charters - Instruction - Sales - Rentals - Air

**AARON'S DIVE SHOP, INC.** (808) 261-1211  
39 Malunui Ave. Kailua, Oahu, Hawaii 96734  
Rentals, Sales, Air, Inst, Hydros, Repairs  
Scuba Dives on Farallon Sea-Scooters

**AMERICAN DIVE TOURS** (808) 923-5382  
P.O. Box 88161 Honolulu, HI. 96815  
Two Trips Daily 7 Days/Wk.  
Underwater Photography Hotel Pick-up

**SEA SAGE DIVING CENTERS** Kapaa, Hawaii 96746  
822-3841, and Koloa, Hawaii 742-1262  
Kauai's only complete pro dive shops. NAUI  
Inst., Sales, Rentals, Air, Charters, Group Rates.

**HAWAIIAN-PACIFIC DIVERS** 244-5910  
10 Market St., Wailuku, Maui, Hawaii 96793  
Wailea/Kihei - Cat & Glassbottom Charters  
Scuba & Snorkel, NAUI Instr., Sales, Rentals, Air

**CENTRAL PACIFIC DIVERS** (808) 661-4661  
780 Front St. Lahaina, Maui, HI 96761  
Complete 5-day Scuba class NAUI/PADI/SSI  
Daily Diving Trips; 5 Islands; The Best Spots

## ILLINOIS

**AQUA CENTER** 717 Morton Ave., Aurora 896-3596  
**AQUAVENTURE** 1655 Oakton, Des Plaines 297-7414  
**AQUAVENTURE** Rowling & Euclid, Ari. Hts. 398-5139  
Instruction-NASDS-Air-Rentals-Tours-Services

**WATER SHED DIVE SHOP**  
1028 E. Walnut, Carbondale, Ill. 62901  
Sales - Rental - Air - Repair - Recovery  
NAUI & YMCA Instructions

**THE OUTDOOR STORE** (618) 277-5151  
2224 W. Main Street, Belleville, Ill. 62221  
Sales - Rental - Air - Instr. PADI  
U/W Cameras, Housings, Trips, ANNUAL CRAWDAD HUNT.

**GREAT LAKES UNDERWATER SPORTS, INC.**  
7501 W. Diversey, Elmwood Park, Ill. 453-1990  
Wholesale, Retail, Cert. Instruction, Rentals,  
U/W Cameras, Air Station, Hydrotesting, Repairs.

**SILENT SEAS MARINE, INC.**  
841 S. River, Aurora, IL 60506 (312) 859-8080  
AIR-SALES-RENTALS-SERVICE-INSTRUCTION  
YMCA - PADI CERT. - OPEN MON THRU SAT

**ELMER'S WATERSPORTS, INC.** 866-8775  
2508 Gross Point Rd., Evanston, IL  
Equipment Sales - Services - Rentals - Air  
Tours - Certified Instruction

**DIVE & SKI** 425-0822  
2958 W. 95th St., Evergreen Park, Ill. 60642  
Air, Instruction, Rentals, Repairs  
Top Lines in EQUIPMENT

**AQUA SHOP, INC.**  
319 North St., Normal, IL 61761 (309) 452-7406  
Located on second floor of Co-op Bookstore  
Sales, Service and Rentals. Air to 3000 lbs.

**BERRY DIVING CENTERS**  
6059 W. Addison, Chicago, IL 725-2032  
12003 S. Cicero, Alsip, IL 371-3366  
Air - Rentals - Repairs - Instruction

**ANCHOR IN SCUBA CENTER** (312) 971-1060  
315 W. Ogden Avenue, Westmont, IL 60559  
Un/H2O Camera Shop - Instruction - Rentals  
Air 5,000 psi - World Wide Tours

**BLUE HOLE, INC.** (309) 676-1852  
4817 West Farmington Road, Peoria, Ill. 61604  
INSTRUCTION - Sales - Service - Rentals - TOURS  
(Open Noon 'til 8 PM — Closed Tuesday, Sunday)

## KANSAS

**THE DIVE SHOP, INC. K.C. area** 913-381-4400  
3606 W. 95th St., Leawood, Ks. 66206 - Sales 7  
days, YMCA, PADI, NAUI. Local & ocean trips.  
Photography, Repairs, Air, Rentals, Commercial

**DIVERS EQUIPMENT & REPAIR SERVICE, INC.**  
7806 Foster, Overland Park, Kas. 66204 381-1899  
Sales (Large Stock) Hydro-Air-Repair-Trips  
NASDS INSTRUCTION INDOOR HEATED POOL

## LOUISIANA

**TEMENTO'S A-P AUTO SUPPLY, INC.**  
435 Sala Avenue, Westwego, La. 70094  
(504) 340-7636. The Best in Skin-Scuba  
Commercial Diving Equipment

**ADVENTURE SPORTS - 1817 Texas Ave.** (318) 425-5870  
Shreveport, LA 71103 NAUI-YMCA-PADI Instr.  
Home of ARK-LA-TEX Diving School Inc & U/W Swim  
Assoc. Sales-Repairs-Rentals-Air-Trips

**HARRY'S DIVE SHOP IN NEW ORLEANS** 504-888-4882  
4709 Airline Hwy., Metairie, La. 70001  
SALES-RENTALS-INSTR.-REPAIRS-CHARTERS-AIR  
Dive the Oil Rigs-41 & 60 ft.-C.G. Lisc'd Boats

## MAINE

**CONGRESS HARDWARE & PAINT CO. (TOMMY'S)**  
273 Congress Street, Portland, Me. 772-5357  
Complete Line of Skin Diving Equipment - Sales  
Service - Rentals - Hydrotest - Air Station

**NORTHEAST DIVERS** Phone: (207) 942-6321  
40 Broadway, Bangor, Maine 04401  
OPEN ALL YEAR 6 DAYS 9am-6pm. COMPLETE LINE of  
SKIN & SCUBA EQUIP.-SLS-SVS-RNTLS-AIR-mail order.

**AQUA SPORTS**  
999 Congress St., Portland, Me. (207) 772-4200  
Skin & Scuba Sales, Service, Air Station,  
Rentals, Instruction, NASDS, PADI

## MARYLAND

**DIVERS DEN, INC.** Tel: 668-6866  
8105 Harford Rd., Baltimore, Md. 21234  
Sales - Service - Air - Rentals - Boat Trips -  
Instr. - Custom Suits - Tours - Metal Detectors



## Diver's Directory

(CONTINUED FROM PRECEDING PAGE)

**DIVERS WORLD**  
923 Gist Ave., Silver Spring, Md. 589-7564  
SALES-AIR-RENTALS & B.S.  
Wreck Diving Trips Every Weekend

**THE SCUBA HUT, INC.** 301-761-4520  
418 Crain Hwy., S.W. Glen Burnie, Md. 21061  
Maryland's Full Service  
Pro Dive Store

## MASSACHUSETTS

**SHIP MATE DIVE SHOP** 617-385-8782  
Sesuit Harbor, E. Dennis, Mass. 02641  
Sales - Service - Air - Rentals - Cert. Instr.  
Open Dives - Dive Site Directory - Charter Boat

**NEW ENGLAND DIVERS, INC. — HEADQUARTERS**  
Tozer Rd., Beverly, Mass. (617) 922-6951  
Mon.-Sat. (8:30 am-9 pm), Sun. (8:30 am-6 pm)  
Olympic Size Indoor Pool for Instruction.

**BROCKTON SCUBA CENTRE**  
1 Perkins Ave., Brockton, Mass. 588-1485  
Full Service Pro Store - NASDS-YMCA-PADI-NAUI  
Sales, Service, Air Refills, Instruction

**EASTERN DIVERS SUPPLY** 617/453-7574  
196 Middlesex St., Lowell, Mass.  
Instruction - Equipment - Trips  
Authorized Scuba Pro Dealer

**FRED CALHOUN'S U/W SAFARIS** 617-283-4933  
NAUI Adv. Scuba Training - Bahama Dive Tours  
Mass. N. Shore boat-based dive trips - Lectures  
Box 291, Back Bay Annex, Boston, Mass. 02117

**WHALING CITY DIVING CENTER** 992-2662  
39 Main St., Fairhaven, Mass.  
Full Service Pro Shop - NASDS-YMCA-PADI-NAUI  
Sales, Service, Air Refills, Instruction

**INLAND DIVERS, 100 So. Main St., Leicester, Mass.**  
617/892-3323. Open Mon. 9-9, Sun. 9-5, Metal Detect. Sales -  
Service - Air - Rentals - Hydros - Dive Trips - Instr. yr. round  
NAUI, Ind. htd. pool

**EAST COAST DIVERS, INC.** 617/277-2216  
213 Boylston St. (Rte. 9), Brookline, Mass. 02146  
Full Service for your diving needs  
Sales, Rentals, Repairs, Lessons, Air, and more.

**MARINE SPECIALTIES, INC.** (617) 487-1730  
Provincetown, Ma. (Cape Cod)  
Air Station, boat rental, full line of equipment.  
Poseidon Parkway, Dacor dealer

**HYANNIS SCUBA CENTER** (617) 771-6260  
303 Yvanough Rd., Hyannis, Ma. 02601  
Sales, Rentals, Service, Instruction  
Open Dives, Air

**MARINE CONTRACTING SCUBA SHOP**  
193 Princeton St., No. Chelmsford, Mass. 01863  
Sales-Rentals-Repairs-Air 80¢-Lessons CO-ED  
NASI 6 Wks. + NASI Instructors Class

**SOUTH SHORE SKINDIVERS, INC.**  
511 Washington St., Quincy, Mass 02169  
617/471-9800 - 617/773-5452 — Hydrotests  
Air Fills, Scuba Classes, Rep'ts Trips

**DUKE & RAY SPORTS, INC. ALL SPORTS** 617-846-7366  
60 Woodside Ave., Winthrop, Ma. 02152 (Open 7  
days) NASI Cert 25 hr Course Incl. Checkouts  
\$80/All equip., sup., Rntls, Ser., Air, Trips, Advice

## MICHIGAN

**UNDERWATER SPECIALISTS**  
G-4084 CORUNNA RD.-Flint, MI 732-0920  
Open Mon.-Fri 9-9, Sat 9-6. 4 Blks off I-75  
Air 5000 PSI-Indoor Pool-Lessons-Repairs-Club

**SCUBA NORTH, INC.** (616) 947-2520  
13258 West Bayshore Drive, Traverse City, MI 49684  
NAUI-PADI, Retail-Wholesale, Repairs, Hydro Test  
Charters, Rentals, Sailboats, Windsurfing

**HIGGINS LAKE SPORTS CTR.** 517/821-9241  
9945 W. Higgins Lake Dr., Higgins Lake  
Mich. 48627 Equipment - Rentals -  
3000 PSI Air Station - Instr. - OPEN ALL YEAR

**WOLF'S ENTERPRISES** Tel. 983-1008  
1207 Ann Street, St. Joseph, Mich.  
Wholesale, Retail, Air, Rental  
Your Marine and Water Sports Hdqts.

**BOB'S COASTAL MARINE DIVE SHOP**  
1109 Ashmun, Saulte Ste. Marie 49783  
Lake Superior Charters - Wrecks  
Air 5000 - Airport P.U. - Motel Rsv. - Rentals

**SEAQUATICS, INC.** 28 Ashman Circle  
Midland, Mi. 48640 (517) 835-6391  
Sales - Rentals - Air - Repairs - Hydro - Wreck  
Diving Trips - Instruction: NAUI, PADI, YMCA

**RELIABLE CYCLE AND SKI HAUS** 396-4684  
254 River Avenue, Holland, MI  
Open M&F 9:30 'til 9, daily 'til 5:30. Closed Sun.  
Rentals, Air, Instruction, Trips, Slides

**RECREATIONAL DIVING SYSTEMS**  
4501 N. Woodward, Royal Oak, MI 313-549-0303  
3380 Washtenaw, Ann Arbor, MI 313-971-7771  
U/W Photo - Carib Tours - Wreck Dives - Scubapro

## MINNESOTA

**CLUB SCUBA, INC. NASDS**  
1300 E. Wayzata Blvd., Wayzata, MI 612-473-4266  
991 Arcade St., St. Paul, MN 612-774-0511  
Full Service Professional Stores

## MISSOURI

**JOHN THE DIVER, INC. SCHOOLS OF DIVING**  
S.R.I., Box 459, Branson, Mo. 65616 417-338-2224  
2555 So. Campbell, Springfield, Mo. 417-887-0606  
110 E. 25th St., Joplin, Mo. 64801 417-624-4511

**DIVER'S VILLAGE, INC.** (314) 365-3242  
Box 329, Lake Rd. W-20, Lake Ozark, MO 65049  
S.S.I. Instr. - Rentals - Sales  
Salvage - Air - Trips

**DIVERS EQUIPMENT & REPAIR SERVICE, INC.** 763-5678  
5800 Barrymore Dr., KC, Mo. 64134  
SALES (Large Stock) Hydro - Air - Repair - Trips  
NASDS INSTRUCTION — INDOOR HEATED POOL

**WEST END DIVING CENTERS, INC.**  
11004 Manchester, St. Louis, Mo. 314-822-3005  
11215 Nat. Bridge Road 314-731-5003  
Retail, Whsle, Repairs, Comprs, Rental, Instr., Air 5000

## NEW HAMPSHIRE

**LAPORTE'S SKINDIVING SHOP, Lake Sunapee, N.H.**  
Route 103, Box 53, Newbury, N.H.  
Sales, Repairs, Rentals, Air, Salvage  
Certified PADI Instruction. 763-5353

**DIVER'S DEN OF N.H.** 603/627-2536  
730 Mammoth Road, MANCHESTER, N.H.  
RENTALS-SALES & SERVICE-AIR-BOAT  
DIVES-INSTRUCTION GROUP or PRIVATE

**UNDERWATER SPORTS OF N.H.** (603) 357-4430  
334 Park Avenue, Keene, N.H.  
Lessons - Sales - Service - Rentals - Air  
Hydro - Trips - Salvage - Commercial Work

## NEW JERSEY

**THE DIVER'S DEN** (201) 752-6050  
232 Route 22, Green Brook, New Jersey  
N.A.U.I. Certified Instruction  
Sales, Service, Rental, Air, Wreck Trips

**INNERSPACE DIVERS OF LONG BEACH ISLAND**  
2805 Blvd. Beach Haven Gardens, N.J. 609-492-0982  
Sales-Service-NAUI Instr.-Air (5000 PSI)  
Rentals-Repairs-Trips-OPEN ALL YEAR

**DIVER'S COVE** YMCA, NAUI, PADI Inst.  
Hwy. 35, Laurence Harbor, New Jersey 201/583-2717  
AIR SALES SERVICE RENTALS  
Diving Vacations, Single or Group - Open Water Training

**SEA N' SKI** (201) 694-5132  
246 Main Street, Lincoln Park, N.J.  
New Jersey Hdqtrs for Equip. Certified Co-Ed  
Skin & Scuba Diving. Lessons & Air.

**OLDE PORTHOLE DIVE SHOP** (609) 597-6069  
1279 Bay Ave., Manahawkin, N.J. (609) 693-7386  
Air - Sales - Rentals - Repairs - Boat Charters  
Instr. YMCA - NAUI - PADI — Heated Indoor Pool

**PRINCETON AQUA SPORTS** (609) 924-4240  
306 Alexander Street, Princeton, N.J. 08540  
YMCA, NAUI, PADI Instruc. - Sales - Rentals - Air  
Service - Hydros - Charter Boats, Trips.

**MARLIN POOL SUPPLY & SERVICE CO.**  
506 Rte. 17, Ramsey, N.J. 07446 201-327-6000  
Equipment - Repairs - Instruction - Air Station  
Indoor Heated Pool - Nationally Certified

**UNDERWATER SPORTS OF NEW JERSEY, INC.**  
Rt. #17, Rochelle Park, N.J. 07662  
Certified Instruction (201) 843-7665  
Indoor Pool — Full Services

## NEW YORK

**RICHARDS AQUALUNG CENTER** Times Square  
233 W. 42nd St., Manhattan 10036. 212-947-5018  
Largest Pro Dive Shop — All Latest Gear  
Quantity Prices - Service - Courses, Basic & Adv.

**THE DIVE SHOP, INC.** Open 7 Days  
110 W. Main St., Bay Shore, N.Y. (516) 665-2526  
68' Dive Vessel, Indoor Pool, Rentals  
NAUI-PADI-YMCA Instruction, Repairs, Hydros, Air \$1

**BAY/SCUBA SPORTS** (212) 748-6848  
10004-4th Ave., Brooklyn, N.Y. 11209  
Lowest Prices, Instruction, Wrecks  
Refills, Sales, Rentals, Hydro.

**CENTRAL SKINDIVERS** Open 7 Days  
2608 Merrick Rd., Bellmore, N.Y. (516) 826-8888  
160-09 Jamaica Ave., Jamaica, NY (212) 739-5772  
59 Ft. Wreck Boat-Heated Indoor Pool-Air \$1.00

**BROOKLYN DIVERS' SCHOOL & SUPPLY**  
2917 Ave. I, New York City's oldest exclusively  
dive shop. Full Service. Instruction. Wholesale - Discount Retail  
Open 7 Days (212) 377-9461

**THE PORTHOLE DIVE SHOP** (516) 928-5542  
807 Route 25A, Port Jefferson, New York  
SALES-DIVE TRIPS-WRECK DIVES-REPAIRS  
AIR-RENTALS-PADI/NAUI/YMCA INSTRUCTION

**HARVEY'S MT. SHEEPSHEAD DIV. CTR.**  
3179 Emmons Ave., Brooklyn, N.Y. Sheepshead  
Bay-Instant Refills-5000 PSI-Custom Suits  
Instr. - Low Prices - Hydrotesting - Wrecks.

**AQUATIC DIVING ACADEMY** 516/666-2754  
P.O. Box 5, Brightwater, N.Y. 11706  
PADI/YMCA Instruction, Pool  
Private Lessons Available, Geo. J. Renwick, Director

**SUB VENTURES DIVE SHOP LTD.** (212) 445-6620  
150-40 Northern Blvd., Flushing, N.Y.  
Private Lessons - Open Weeknights - All Day Weekends. Ed  
Hinkelman - YMCA Instructor - 3000 Air - Low Price Rntl. Pkg.

**KINGS COUNTY DIVERS CORP.**  
Brooklyn's Full Service Pro Shop  
Authorized Scubapro Dealer  
3040 Ave. U 212/648-9897

**7 Z's - Home of Hampton Bay Divers, Inc.**  
1140 Flanders Road 516/727-2642  
Flanders, L.I., N.Y. 11901  
Complete SCUBA Facilities (1/4m E/O Big Duck)

**ATLANTIS DIVERS WORLD - NYC** (212) 242-1786  
500 6th Ave. at 13th st., Manhattan's Dive  
Trip HQ, Air \$1.25, PADI Basic & Adv. Inst.  
U/W Photo Classes, Disc. Equip/Rntl/Svc.

**NATIONAL AQUATIC SERVICE & SCHOOL**  
1425 Erie Blvd. E., Syracuse, N.Y. 13210  
NASDS Instruction - Sales - Service - Rentals - Tours  
Open 9 to 5 Daily.

**ATLANTIS DIVERS WORLD - MONTAUK, L.I. (Star Island),**  
(516) 668-3330, (212) 242-1786, Air, Dive Boat, Trips, Lodg-  
ing, Meals, Tennis, Group Rates, PADI Inst., U/W Photo,  
Sales/Rntl/Svc.

**GREAT LAKES DIVERS, INC.** (716) 836-6900  
244 Niagara Falls Blvd., Buffalo, NY 14223  
NAUI - PADI Instr. - Sales - Rentals - Charters - Repairs  
Pure Air - Hydrotesting - Salvage (716) 759-2454

**NIAGARA SCUBA SPORTS** 6 Days, 3 Evenings  
2048 Niagara St., Buffalo, N.Y. 716/875-6529  
Cert. Basic-Adv. Instr. - Sales - Air - Rental  
Tank Testing - Repairs - Tours - Local Trips

**NYPENN DIVERS & SPORTS SUPPLY, INC.**  
400 Prospect St. Exit 71 off Rt. 17  
Binghamton, NY 607-729-4988  
Sales-Service-Rentals-Trips-Instruction

**DANZIGER, INC.**  
70 So. Main St., Freeport, L.I., N.Y. 516-FR8-4480  
Refills - Regulator & Valve Repair - Tanks Tested  
Scuba Equipment & supplies - Instruction-NASDS

**ISLAND DIVE SHOP, INC.**  
Rentals-Rep.-Air-Wreck Dives-Instruction-Hydro  
329 So. Grove St., Freeport, NY 516-546-2030  
24 Clinton Ave., Huntington, N.Y. 516-421-5151

**ALLEN SPORT SHOPS, INC.** (914) 235-3430  
249 North Ave., New Rochelle, N.Y.  
Sales - Rentals - Air - Visual Inspection  
Hydrotesting - Instruction - Repairs

**NORTH SHORE DIVING CENTER** (516) 757-2252  
58 Larkfield Rd., E. Northport, NY. NASDS, NAUI,  
Basic & Adv. U/W photo courses, sls, reprs,  
air, rentals, charters, hydrostats, travel

**UNDERWATER SERVICES UNLTD.** S113 Photo, Wrk,  
Nite Dives-Lobstering. Aboard 40' R/V "Taffy B"  
Full Equip., LoranC. PADI/YMCA Trng. Facilities.  
Capt. Steve Bielenda (212) 778-8860-(516) 928-3849



MARSHALL'S PRO DIVING SERV. (607) 387-7321  
Heart of the Finger Lakes (near Ithaca)  
Frontenac Road, Trumansburg, N.Y.  
Cert. Inst. - Sales - Rentals - Air - Dive Tours

## OHIO

BRUCE REGERS PRO DIVE SHOP INC. (216) 633-0983  
280 W. Ave., Tallmadge, Ohio 44278  
Mail order available, send for monthly sales brochure  
Sales-Rentals, Instr.-Air-Hydro Test-Salv.-Repair.

AQUA HUT 419/352-5128  
521 S. Prospect St., Bowling Green, Ohio 43402  
PADI Training Facility, 3000/psi Air, Mail Order  
Sales, Service, Trips, Rentals

UNDERWATER SPORTS OF OHIO 653-5741  
703 S. Main St., Urbana, Ohio  
Air-Sales-Rentals-Repair-Trips  
Cert. Instruction: YMCA-PADI

BUCKEYE DIVING SCHOOLS 439-3677  
46 Warr. Center Rd., Bedford, O. NASDS/PADI/  
YMCA. Large retail & rental stock—Inst. Disc'ts  
Full Svc. Store-Charter-\$18.75 rents comp. rig.

SUB-AQUATICS, INC. (614) 864-1235  
8855 E. Broad St., Columbus, Ohio  
Retail/Wholesale, All Major Brands: Mako Com-  
pressors, Lubell Speakers, Tank Cleaner Tools, Helle

SUB-AQUATICS, INC. 216-467-5575  
10333 Northfield Rd., Northfield/Cleveland, OH  
Sales, Service, Air, Rentals, Good Prices!  
Ohio's Largest Equipment Wholesaler

DALE'S DIVING SHOP (419) 625-4134  
302 Meigs St., Sandusky, Ohio 44870  
Air - Sales - Service - Rentals  
Lake Erie Diving Trip - YMCA Instruction

## OREGON

NORTHWEST DIVERS SUPPLY, INC. (503-267-3723)  
825 S. Broadway, Coos Bay, Or. 97420  
Sales, Rentals, Air, Hydrotesting, Gold Dredging  
Equip. NASDS Instruction, Trips.

## PENNSYLVANIA

CEDAR RUN POOL & SCUBA SHOP  
Camp Hill, Pa. 17011. (717) 737-8552/766-6781  
Scuba Sales and Instruction  
Bill & Betty Whitlock

LAKE ERIE SKIN DIVING SCHOOL 454-0285  
405 West 8th Street, Erie, PA 16502  
Antique bottles, coins, 7 wrecks, 3500 psi  
Portable air, Rentals, Instruction, U/W Photo

SMOKEY'S DIVER'S DEN 717-393-5333  
412 N. Duke St., Lancaster, Pa. 17602  
Air-Cert. Instr. - Rentals-Sales-Service-Recov. U/W  
Tours. Lecture-Slides-Movies for Schools - Clubs

DIVING BELL, INC. 215/PO 3-6868  
681 N. Broad St., Philadelphia, Pa. 19123  
Gus Marsh, Manager — Closed SUN & MON  
Free Parking on both PRUYN ("Prine") lots

SUB-AQUATICS (412) 531-5577  
1593 Banksville Rd., Pittsburgh, Pa. •  
Factory Auth. Services. Tank Hydro & Clean  
Rentals, Air, All Brands, NAUI, YMCA, PADI

GILLIGAN'S ISLE, INC. (215) 289-6792  
6545 Roosevelt Blvd., Philadelphia, PA  
Instruction, Gear, Air, Repair, Dive Trips  
Noon to 8 p.m. daily, 9 to 5 p.m. Saturday

DON COOK'S SCUBA EQUIPMENT (717) 326-2091  
940 Market St., Williamsport, Pa. Closed Wed.  
Air - Cert. Inst. PADI - Sales & Service  
Pro Dive Shop

SAIL + SCUBA  
Live aboard classic offshore yachts, learn to  
sail and dive the Great Barrier Reef  
OCEANUS, Box 431K, Ho-Ho-Kus, NJ 07423

ATLANTIS DIVING CENTER  
4363 Main Street, Manayunk, Phila. 19127  
215/IV3-8650, Helen Link, Manager  
Closed Sunday and Monday

PROFESSIONAL DIVING SERVICES CO. 274-7719  
726 Pittsburgh St., Springdale, Pa.  
Basic, Advanced Scuba by Dick Geyer (Navy div.)  
Equip., Sales & Service, Air, Lectures, Movies

YORK SKIN DIVERS' SUPPLY, INC. (717) 854-3133  
1505 S. George St., York, Penna.  
Instructions - Sales - Rentals - Air  
Service - Commercial Diving/Communications

## RHODE ISLAND

SCUBA SYSTEMS (401)463-8214  
1180-R Pontiac Ave., Cranston, R.I.  
NAUI - PADI - REPAIR - RENTALS - SALES  
MON.-FRI: NOON- 8 PM; SAT: 9-5 PM

VIKING DIVE SHOP Tel. 847-4179  
111 Bellevue Ave., Newport, R.I.  
Air, Rentals, Repairs, Sales, Hydrostats  
Wet Suits Tailored - NASDS Instruction

DIVER'S WORLD OF R.I.  
754 Main St., E. Greenwich, R.I. 401/884-5141  
2060 Smith St., Centerdale, R.I. 401/231-2212  
Cert. Instr. Hydros-Air-Unisuits-Poseidon

DE MARCO DIVERS  
Instructions by R.I.'s first NAUI, YMCA, PADI  
and Water Safety Instructor. Equipment  
discount for student. (401) 353-1667

RHODE ISLAND DIVER'S SUPPLY (401) 274-4482  
209 Elmwood Avenue, Providence, R.I.  
Air, Rentals, Repairs, Sales, Hydrostats  
NASDS Instruction, Indoor Heated Pool

## SOUTH CAROLINA

NEPTUNE DIVE & SKI (805) 279-2797 or 279-2777  
133 Georgia Ave., N. Augusta, S.C. 29841  
Tours - Sales - Rentals - Hydrostatic - Air  
Professional Instruction, All Cert. Programs.

THE WET SHOP 744-9276  
5121 Rivers Ave., Charleston, S.C.  
Instruction, Sales, Service, Rentals, Charters,  
Hydro - Metal Detectors - Photo Equipment

## TENNESSEE

DIVE SHOP INSTR.-NASDS  
3149 Popular, Memphis, Tenn. 38111  
SALES - RENTAL - AIR - REPAIRS - TOURS  
(901) 324-0267 or 324-2686

## TEXAS

BLUE WATER DIVING SCHOOL (SSI)  
910 Westheimer, Houston, TX 77006  
Full Service Dive Shop - Downtown location  
Gulf Trips Se Habla Espanol 713/528-0634

SCUBA DEN DE SAN ANTONIO, INC. (512) 822-0215  
1106 Austin Hwy., San Antonio, TX 78209. ONLY  
PRO DIVE SHOP in San Antonio. Serving ALL of S.  
Tex. AND Mexico. INSTR. and US DIVERS EQUIP.

UNDERWATER SPORTS and EQUIPMENT COMPANY  
10634 Ferguson Road, Dallas, Texas 270-9640  
Air - Hydrotesting - Supplies - Instruction  
Open six days a week 'til 9:00 P.M. Closed Wed.

DIVER'S WORLD, INC. (No. Dallas)  
632 S. Central Expwy., Richardson, TX 231-7865  
Major Brands, Sales, Air, Rentals, Repairs, Hydro.  
Trips, NAUI Instr. Nikonos, Zodiac Inflatable Boat.

PADRE ISLAND DIVE SHOP  
4455 So. Padre Island Dr. 512-855-2821  
Corpus Christi, Tx. 78411 NAUI, PADI, YMCA  
Trips to Oil Rigs & Liberty Ships

ARLINGTON SCUBA CENTER, INC. (817) 265-6712  
2414 W. Park Row Dr., Arlington, Texas 76013  
PADI Instruction, Air, Sales, Rental, Repair  
Most Complete Pro Service in North Texas

LA-MAR CORBET DIVE SHOPS  
Grand & I-H-10, Beaumont, Tex. 713/833-2878  
Evergreen Park, Vidor, Tex. 713/769-5560  
"If you need it for diving, we have it" 24-hr.

## VERMONT

VICTORY AUTO STORES 802-862-0963  
145 Cherry St., Burlington, VT 05401  
Air-Reg. & Valve Repairs - Hydros Wholesale &  
Retail, H.P. Air Compressors-New-Used-Rebuilt

## VIRGINIA

'W' & 'W' DIVE SHOP  
7403 West Broad St., Richmond, Va. 804-282-2852  
YMCA-PADI Instr. - Sales - Service - Air  
Rentals - Trips - Salvage - Hydrostat - Inspection

AQUA-LUNG DIVING CENTER  
805 W. Little Creek Rd., Norfolk, VA 804/423-0537  
9601 Jefferson Ave., Newport News, VA 804/596-1914  
Sales-Rentals-Repairs-Hydro-Air-Instruction

SKI & DIVE SHOP (703) 683-2220  
1545 N. Quaker Lane, Alexandria, VA 22302  
Full Service professional dive shop. INSTRUCTION-SALES  
REPAIRS-AIR-TRAVEL. Authorized Scuba-Pro dealer.

BLUE RIDGE DIVE SHOP 804-293-6984  
1726 Allied St., Charlottesville, Va. 22901  
Sales, Service, Air, Rentals, Hydro, Instr.  
Comm. Diving, Pkg. Deals, Rock-Shell Shop

## WASHINGTON

NEW ENGLAND DIVERS, INC.  
11009 First Ave., So. Seattle, Wa. CH 6-8156  
Hwy. 99 & 252 So., Kent, Wa. CH 6-DEEP  
Sales - Air - Classes - Rentals

## WEST VIRGINIA

Dewey F. Wherry's DIVERS CAVE V since 1961  
3700 10th Ave., Vienna, W. Va. Ph. 295-4258  
Full Line Gear - Air - Inst. - PADI/OWSI  
Commercial 24 hr. 7-day U/W Burn Demo Salv.

## WISCONSIN

ON THE ROCKS - Scuba Headquarters  
Lodging-Rentals-Charter Vessel-  
Oil Free Air-Guided Dives (414) 854-2808  
Route 1 - Box 164 - Ellison Bay, WI 54210

PETRIE'S SCUBALAB  
1406 Emil St., Madison, Wis. 256-0914  
1617 N. Alpine Rd., Rockford, Ill. 397-1109  
Sales - Air - Repair - Instruction - Rentals

INLAND SEAS DIVING ACADEMY, INC.  
310 North Commercial Street  
Neenah, Wisconsin 54956 Tel.: (414) 722-0051  
Air, Equipment, Instruction, Rentals

3 LITTLE DEVILS DIVE SHOP 608/356-5866  
Hwy. 123: Baraboo, 53913 (N. entr. Devils Lake)  
Air, Sales, Rentals, Instruction, Trips  
Daily Apr.-Oct. Off. Seas. 312/986-5031

FONTANA ARMY-NAVY STORE, INC.  
Hwy 67, Fontana, Wis. (414) 275-2220  
251 State St., Madison, Wis. 608-257-5043  
Air - Instructions - Equipment - Rentals

WISCONSIN STATE DIVERS/UNDERWATER WORLD  
122 W. Broadway, Waukesha, Wis. 547-1115  
Sales - Instruction - Rentals - Air  
Daily 10 to 9, Mon. & Sat. to 6, Sunday to 4

## AUSTRALIA

CAIRNS BARRIER REEF DIVERS. Extensive Trips  
to the Great Barrier Reef on the "Osprey"-Rntls  
NAUI Instr. - Further info 47 Shields St., Cairn  
Qld., Aust. 4780, cables: "OSPCHARTERS" Cairns

## BAHAMAS

FREEPORT—Oceanview Apts, \$35/Day for 5 Mr. Apt.  
Incl. Air Tanks. Near dive clubs & resort area.  
Fully equip. kitch., linens, T.V., pool. (305) 574-2604  
Brochures: E. Durksen, 1725 Haverhill, Deltona, FL 32725

CAT ISLAND — Enjoy the Privacy of a Waterfront Castle after  
Diving. \$300 P/WK for 6. Complete Dive Pkg also available. For  
Brochure Write: S. Reinke, Tracklot Rd., St. James, N.Y.  
11780 (516) 584-6885

VICTORIA SCUBA CLUB, Freeport, Grand Bahama  
Complete dive resort center, fully equipped shop.  
4 dive boats, accommodations, low price all incl.  
package. Write: P.O. Box 1261, Freeport, G.B.I.

FREEPORT — LUCAYAN TOWERS CONDOMINIUM  
Family/2 Couples, 2 BR, 2 Bath, Kitchen,  
Golf, Tennis, Pool, Snorkel, near UNEXSO  
Tom Jones, Box 447, Unadilla, N.Y. 13849

BAHAMA DIVERS CO. LTD. 809/322-8431  
Box 5004, Nassau, Bahamas. Novice and Experienced  
Dives Daily, Pkg. Rates. NAUI & PADI Instr.  
Retail, Wholesale, Air, Cameras, Repairs

UNDERWATER EXPLORERS SOCIETY (UNEXSO)  
Box F-2433, Freeport, Bah. (809) 373-1244  
Famous facility - Reef Trips - NAUI Courses  
Group Rates — 18' Deep Tank - Chamber - Air



## Diver's Directory

(CONTINUED FROM PRECEDING PAGE)

### BELIZE

AMBERGRIS LODGE Barrier Reef Diving  
Beachfront island hotel. Full facilities for  
Groups/Individuals. 36' dive boat.  
Box 5466, Richardson, TX (214) 690-4976

### BERMUDA

BERMUDA BIOLOGICAL STATION - Scuba, Snorkeling,  
marine ecology. \$250 wk. incl. room, board, lab,  
library, and leader. Write: Bermuda Biological  
Station, St. George's 1-15, Bermuda

### BRITISH VIRGIN ISLANDS

MARINA CAY HOTEL & DIVE BVI LTD. Ph: 4-2174  
Box 76, Road Town, Tortola, B.V.I.; J. T. Giacinto  
NAUI #3491, Instr. Rentals, Air, Tours, Wreck  
Diving, etc.; 6-acre Island Diving Resort.

AQUATIC CENTRES — GEORGE & LUANA MARLER  
P.O. Box 108, Road Town, Tortola, B.V.I. 42839  
Cert. Instruction, Sales, Rentals, Air, Guided  
Tours, Wreck Diving, Photography Specialist

### CANADA

DIVE CAPE BRETON LTD. Tel. 902-733-2840  
P.O. Box 130, Louisburg, Nova Scotia, Canada  
Dive Tours and Packages-Individuals, Groups  
Virgin 18th Century Man O'War, Shipwrecks.

ROWAND'S REEF  
5760 Cedarbridge Way, Richmond, B.C. 273-0704  
2828 W. 4th Ave., Vancouver 732-1344  
Custom Wetsuits, Compressors, Equip. Catalog

ONTARIO DIVERS  
1040 Lansdowne St. W., Peterboro, Ontario  
U.S. Divers - Dacor - Parkway/Poseidon  
Write Now to be on our Free Mailing List

ATLANTIC CANADA DIVE TOURS, LTD. (Pro Dive Shop)  
500 Esplanada, Sydney, N.S. Ph: 920-539-7676  
Dive Historic Cape Breton on New 42' Dive Boat  
Jeanie I. - Instruction, Sales, Service, Rentals

THE DIVING DEN  
P.O. Box 846, Peterborough, Ont. K9J 7A2  
NAUI Instruction - Sales - Service - Rentals - Air  
Everything for the Diver - Write for price list.

LA MAISON DU PLONGEUR (THE DIVER'S HOUSE)  
2395 Labelle Blvd., Lafontaine, (St. Jerome) Que.  
Sales-Service-Rentals-Hydro-ACUC Instruction  
Rix Air - up to 4000 lbs. (514) 436-9037

### DOMINICAN REPUBLIC

AQUAVENTURES, P.O. Box 1816, Santo Domingo  
D.R. 556-7608. Pro Dive Shop. Air - Rentals -  
Sales - Repairs - PADI - Int. Trng Facility - Dive  
Trips - Indiv. & Large Group by Day or Week

### ENGLAND

THAMES WATERSPORTS, LTD.  
179-183 Fulham Palace Road  
London W6 8QX, England  
01-381-0558

### GUAM

INTERNATIONAL DIVERS ASSOCIATION 565-2581  
P.O. Box 6657, Tamuning, Guam 96911  
Sales-Repair-Rental-Instruction-Air  
Tours of Guam, Truk, Palau, Saipan

CORAL REEF MARINE CENTER, INC.  
Largest, Best Equipped Dive Shop in the  
Pacific. Escorted Tours to Micronesia Monthly  
P.O. Box 2792, Agaña, Guam 96910

### HAITI

BASKIN IN THE SUN, Taino Beach Hotel Tel: 7-2088  
P.O. Box 1253, Port-au-Prince, Haiti. Complete Scuba Facilities.  
Group rates. Tennis, fishing, sailing, mountain walks, etc. 31  
miles from Port-au-Prince.

### HONDURAS

ANTHONY'S KEY RESORT - Isla Roatan, Honduras.  
Fully equipped scuba - Excel. Shallow or Deep  
diving right at resort. Barrier reef. U.S. Off:  
P.O. Box 18412, Dallas, Tex. 75218 (214) 328-4244

PIRATE'S DEN HOTEL  
Sand Bay, Isla de Roatan, Honduras, C.A.  
NASDS Instr., \$35 incl. room, meals & a dive.  
Write for customized package & group rates.

PLANTATION BEACH RESORT. Thatched roof cabins on Tropical  
Bay Islands, Air, diveboats, room, meals - \$30.00/day dbl.  
occupancy. Write: Capt. Jean Campbell, Aptdo. #100, La Celba,  
Hond. C.A.

Tired of diving with a crowd?  
DIVE WITH DOC, Oak Ridge, Isla Roatan, Honduras, CA  
On Roatan's yet to be discovered South Shore  
7 nights COMPLETE: Hotel, Meals, Diving \$130-235

Fornale BAY Island, Roatan, Honduras - 4 Bdrm house on 7  
acres of land, big waterfront. FOR INFORMATION WRITE: MRS.  
N. LANGE, French Harbour, Roatan, Honduras or Box S-2030,  
San Juan, Puerto Rico 00903

### ISRAEL

AQUA SPORT RED SEA DIVING CENTER, LTD.  
Coral Beach P.O. Box 300, Eilat, Israel 059-2788  
Equip. Hire, Sale, Service, Testing, Air, Cameras  
Diving Courses, Landrover Safaris, Tours.

Complete Diving Svc - Indv./Grp. Tours.  
Instr.-Rentals-Guide Boat-Car-Full Accommodations  
RED SEA DIVERS CENTER tel: 057-99-295  
P.O. Box 22, Sharem El Sheich, Israel

Complete Diving Svc. - Indv./Grp. Tours.  
Instr.-Rentals-Guide Boat-Car-Full Accommodations  
RED SEA DIVERS CENTER  
Canavan Hotel, Eilat, Israel

Diving Yacht: Red Sea Divers I  
Daily Tours to Ras Mohamed, Straits of Tyran  
Complete Diving Service on Board.  
P.O. Box 22, Sharem El Sheich, Israel

AQUA-SPORT INTERNATIONAL DIVING CENTER  
POB 300, Eilat/Israel, Phone 059/2788  
Rentals, courses, daily tours, safaris, jeeps.  
All services for individuals and groups

NEVOIT DIVING CENTER tel. 059-3667, 6191  
Post Eilat; telex (07)7783 NEVHO IL.  
\$30 includes Room, Meals and 2 Dives  
Write for Group Rates

### JAPAN

MACK'S DIVING, JAPAN  
2-18-34 Nishiki Nagoya, Japan 052-211-1772  
1-640-13, Makishi Naha, Okinawa 0988-55-0434  
Charters, Rentals, Air, Instruction PADI, Tours

### MEXICO

AQUA SAFARI  
Cozumel, Q Roo, Mexico 2-0101  
GEAR - AIR - BOAT - HOTEL RSVN & INFO  
Dick Tompkins, Gringo Operator

GALAPAGO-INN DIVE RESORT  
Cozumel, Q. Roo, Mexico P.O. Box 289 - Ph. 20135  
New Divers Headquarters in Mex-Caribbean  
Full SCUBA, U/W Photo, Trips & Group Pkgs.

### MICRONESIA/GUAM

INTERNATIONAL DIVERS ASSOCIATION 745-2581  
P.O. Box 6657, Tamuning, Guam 96911  
Sales - Repair - Rental - Instruction - Air  
Tours of Guam, Truk, Palau, Saipan

MICRONESIA AQUATICS OF TRUK LAGOON—Tours arranged  
for diving Truk Lagoon—Boats & Guides - Sales - Instr  
Rental-Air-Hotel Reservations-Complete tour & dive svcs.  
P.O. Box 57, Truk Lagoon, E.C.I. 96942

### NETHERLANDS ANTILLES

SUB SEA SAFARIS N.V.  
Aruba Sheraton Hotel N.A. Tel.: 3900 or 4617  
Open 7 days a week 9.00-17.00 Diving - Cruises - Repairs -  
Snork - Rental - Air - Instruction - Retail.

AQUAVENTURE, BONAIRE (212) 751-3311  
Dive with Capt. Don, Stay at Divers Habitat  
(bungalows) fully furnished - Instruc. - photo  
Reef trips - Nite dives - snork - rentals - air

SCUBA ARUBA with Tim and Ed Watersport Ctrs at Americana  
(tel. 4500x337) & Holiday Inn (tel. 3600x329) Hotels. Special  
Sail & Snorkel Cruises aboard TriMaran AQUAVENTURE, Daily  
Dive & Fish Charters. Instr. Avail.

UNDERWATER RESEARCH CENTER  
Box 234, St. Maarten, Neth. Antilles, N.W.I.  
NAUI/PADI Inst. - Guided Wreck/Reef dives  
Snorkel & SCUBA, Night Diving, Rentals

### PHILIPPINES

BUNN'S PHILIPPINES DIVING EQUIPMENT CORP.  
928 Pasay Road, Makati, Rizal 85-36-76  
P.A.D.I. Instruction, Rentals, Sales, Air  
Diving Tours, Repair, Custom Suits.

MARINE SPORTS CENTER Cable: Edwards Manila  
25 Caliraya St., Quezon City 3008  
57' Boat, Dive Trips, Gamefishing, Expeditionary Cruises,  
Wrecks, Air, Rentals, Instruction.

SEA US AT SPECIAL SERVICES  
Box 12, ANVSTA, SUBIC, Philippines  
FPO San Francisco, CA 96651  
Navy Cert., Air, Inst., Rentals, Repair, Maint.

### PUERTO RICO

DIVE P.R. VIRGIN ISLANDS DAILY or WEEKLY 36'  
DIVE BOAT INNOVATION. Capt. GREG KORWEK (NAUI)  
CARIBBEAN SCHOOL of AQUATICS, LA CONCHA Hotel  
Bx 4195, San Juan, PR (809) 723-6090, 724-7609

PUERTO RICO Luquillo beach house, 3 bedrms.  
Air, Instructor nearby (212) 879-8870  
For rent Weekly. Groups Invited.  
Edward Pinney, 146 E 78 St., NY, NY 10021

VIEQUES DIVERS, full service Dive Center  
5000 psi, Instruction, Rentals, U/W Tours  
36' Diesel Boat. Bugs, Fish, Living Reef  
Write: VIEQUES DIVERS, Vieques, P.R. 00765

### SOUTH PACIFIC

SCUBAHIRE — Fiji's only Scuba SPECIALISTS.  
Div. expd. Fast Charter Boats, Gear Hire, air  
DUTY FREE Gear. P.O. Box 777, Suva. Ph. 361-241  
Tradewinds Hotel Marina. Write for brochure

### VIRGIN ISLANDS

JOE VOGEL (Ex-UDT) 809-774-2321  
P.O. Box 7322, St. Thomas, USVI 00801 809/775-1610  
Scuba Instr. & Reef Trips - Night Dives  
Oldest Cert. Diving School in US V.I.

CARIBBEAN SEA ADVENTURES INC. (809) 773-5922  
Box 3015, Christiansted, St. Croix, USVI 00820  
Locations: Buccaneer Hotel, Jockey Club on Cay  
Fastest Dive Boats (3) St. Croix's most experienced

LAGOON UNDERSEA CENTRE 809/775-1935  
Red Hook, St. Thomas, V.I. 00801  
Accom. Available - Tours - Instruction - Rental  
Fresh Air - Full Service Dive Shop - Group Rates

AQUA ACTION 775-3275  
Wintberg Peak, St. Thomas  
Scuba instruction/boat tours, wrecks  
photog., air fills, night dives

THE DIVE SHOP (809) 776-6256  
Box 161 Cruz Bay, St. John USVI 00830  
Reef - Wreck - Nite Dive Tours with Jack Bosh  
U/W Photo - Clean Air - Rentals - Cert. PADI-YMCA

JOHN HAMBER'S DIVE CENTER 774-3152/775-0755  
Sapphire Bay - Box 2432 - St. Thomas, V.I.  
Guided Tours by Fast Boat - Scuba Int. NAUI  
Reef & Wreck Dive - U/W Photo - Air - Rentals

Charter "BONAVENTURE" for Weekly Dive Tours  
49' Motorsailer - Compressor on Board  
Capt. Manfred Zerbe: Road Town-Tortola Box 325  
British Virgin Islands

VIRGIN ISLAND DIVING SCHOOLS AND SUPPLIES  
Box 9707, St. Thomas, USVI 00801 809-774-8687  
Tours & Classes for Beg. & Adv., Air, Sales, Svc.,  
Rntl., Photo, Grps., V.I.'s most comp. dive fac.



## WEST INDIES

SCUBA SAFARI BARBADOS. Phone 60621 or 62031  
Hilton Drive, St. Michael, Bridgetown. Complete  
Scuba Diving Services. Certified Guides, Sales  
Rentals, Instruc., Diving Pkg. from Canada & USA

WILLIE'S WATER SPORTS Tel. 02836 or 62273  
Paradise Beach Hotel, Barbados, W.I. Dive Grps.  
Individual or Lessons. Full Scuba, Skin Diving &  
Water Sport Facilities. Accommodations arranged.

CAYMAN BRAC, B.W.I. Dive Little Cayman Wall  
Stay at Buccaneer's Inn, Very Reasonable Trips  
52 wks/yr from St. Petersburg, Write Little Cay-  
man Adventures, Bx K85, Land o Lakes, Fla. 33539

## PADI Joins CMAS

The Professional Association of Diving Instructors (PADI) recently joined ranks with the World Underwater Federation, known internationally as Confederation Mondiale des Activites Subaquatiques (CMAS). Membership in CMAS authorizes PADI to issue international equivalency certification to all PADI certified divers and instructors who qualify.

CMAS, a nonprofit organization, was founded in January 1959 in Monaco by delegates from 15 countries, Commander Jacques-Yves Cousteau, who supported the foundation of CMAS, was elected president at that time. The 15 founding members in 1959 have now increased to over 50 countries.

The principle objective of CMAS is international standardization of scuba training and certification. CMAS has three grades of diver certifications and three grades of instructor certifications. The star rating system is used to symbolize grades.

This means PADI divers and instructors who qualify can now have international certification. It also means that CMAS divers may qualify for PADI certification. In some countries, CMAS certification is the only one issued to divers. Although PADI certification is recognized in many countries, the traveling diver with a CMAS card would be assured of acceptance even in non-English speaking countries. The CMAS international certification card, wall certificate, and international hand signals can be acquired from PADI Headquarters by PADI certified divers.

For additional information CMAS/PADI equivalency certification and an application form, write to CMAS/PADI, 2064 N. Bush St., Santa Ana, Calif. 92706. >

## AERA Festival

Aquatic Exploration and Research Associates (AERA) Windsor, Ontario, Canada, will hold its underwater festival this fall in Windsor.

Contest categories include prints, slides, movies and underwater research projects. Contest rules, entry blanks and information can be obtained from Mahmut Suner, P.O. Box 3054 Tecumseh, Windsor, Ontario N8W 2M3. The entry deadline is Sept. 30. >

# The FUTURE of Tomorrow is in THE SEA

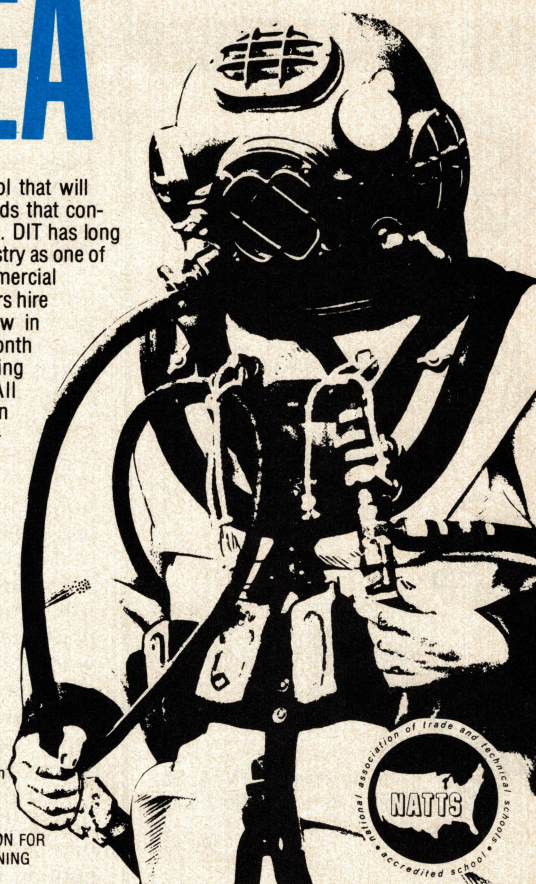
**ARE YOU READY?** Enroll in a school that will prepare you to meet the new demands that confronts the Commercial Diver of today. DIT has long been recognized throughout the industry as one of the finest and most thorough Commercial Diving Schools in the world. Employers hire our graduates with confidence! Now in our eighth year we offer a new 6-month course designed to meet the expanding growth in Commercial Diving. All facets of the industry are covered. An Send \$2.00 for our brochure containing course outlines, employment statistics, financial assistance, etc.

## DIVERS INSTITUTE OF TECHNOLOGY

P.O. BOX 70312 Dept. SD-8  
SEATTLE, WA. 98107  
(206) 783-5543

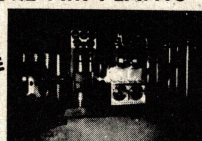
Accredited Member, National Association of Trade and Technical Schools. Eligible Institution under the Federally Insured Student Loan and Basic Educational Opportunity Grant Programs.

APPROVED BY WASHINGTON STATE COMMISSION FOR VOCATIONAL EDUCATION FOR VETERAN TRAINING



## HIGH PRESSURE AIR PLANTS

PORTABLE  
STATIONARY  
FAST • SAFE  
DEPENDABLE



• New Ingersoll-Rand Model 1R223 • Worthington • Meco 500 Multi-Stage; Heavy Duty Ready to Charge Cylinders • Ranges: 3 to 60 horsepower; Fills: 1 to 20 Minutes; Low 500 to 900 RPM • Our equipment purchased by individuals, clubs, shops, industrial and research plants, U. S. Navy and Air Force • Accessories: high pressure fittings, tubing, coolers, moisture separators, and special patented filters • Plans: drawings, directions for do-it-yourself projects • Our equipment engineered for safety according to A.S.M.E. Code of high pressure piping. Write for Details.

**McWHORTER ENGINEERING CO.**  
P.O. BOX 9014, BIRMINGHAM, ALA. 35213

## DIVE THE RED SEA COAST EILAT TO RAS MUHAMMED

Our October 1977 — May 1978 Red Sea Dive Program includes:

- Red Sea Supersavers — two weeks from £ 265
- Two week escorted safaris £ 405 fully inclusive
- Dive the Straits of Tiran including Ras Muhammed one week £ 270

### ALL PRICES EX LONDON

Brochure and further information:

Twickenham Travel Limited, 22 Church St., Twickenham, Middlesex TW1 3NW England. Telephone 01-892 7606/6206

**SCUBA USA goes to NEW HAMPSHIRE**  
and dives its landlocked wrecks  
in the Sept. skin diver

**NEW METHOD!**  
Only \$39.50



20/20 vision underwater with prescription face-plate lenses. The method of bonding lenses to the mask is the only one which corrects exactly as your glasses do.

Individually analyzed by an optometrist experienced in the problems of under water vision. Lenses as large as any manufactured. Used by U.S. Navy underwater training facilities as well as State agencies. To Order send copy of prescription, distance between eyes, and mask or plate only. We supply masks at regular retail price if you wish. Air mail \$1.00 extra. WE CAN OBTAIN COMPLETE INFORMATION FROM YOUR GLASSES. SEND FOR FREE LITERATURE. UNCONDITIONALLY GUARANTEED  
**A. S. NEWTON, O.D.**

575 6th St., San Pedro, Calif. 90731, 213-832-7300

**DIVERS!** Supply your own air with our new portable, economical "AIR MASTER" I and II. Take it anywhere, lightweight, a mere 55 pounds. Approximate filling time 30 minutes. 3000 psi. Write for complete brochure.



**AQUA PRODUCTS**  
4110 Secor Rd., Toledo, Ohio 43623  
(419) 472-7177

**3CG AIR MASTER II**  
Model Illus.  
\$1025 complete



# CAN YOU MEET THE CHALLENGE?



The demand for well trained commercial divers has increased both in the domestic and overseas market, now is the time to train for your future.



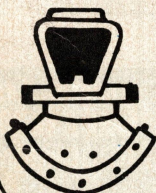
From all stand points — as a business, a potential market, or as a career opportunity — the outlook for the future is extremely favorable.



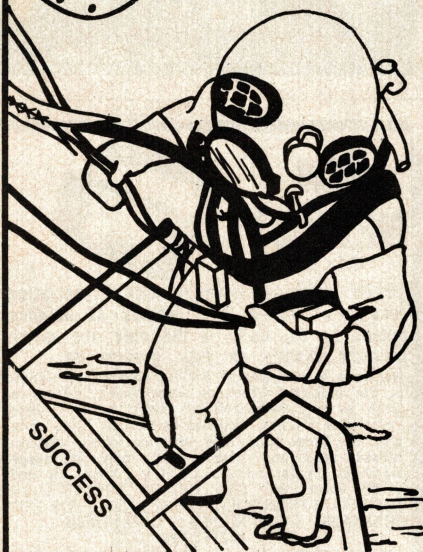
BECOME A PART OF THAT FUTURE!



For 18 years DTA has forged ahead to become the foremost diving school in the world.



State approved for V. A. Students, Rehabilitation State and V. A.



**DIVERS TRAINING ACADEMY, INC.**  
RFD #1 - BOX 193-C LINK PORT  
FORT PIERCE, FLORIDA 33450  
(305) 465-1994

Send \$2.00 for all new 1975-76 Catalog offering two complete courses for Commercial Diving.

## NAUI Photo/Slide Competition

The NAUI 1977 Photograph and Slide Show Competition will culminate during the weekend of IQ9, September 29-October 2 in Miami Beach, Fla. The IQ9 audience will participate in the final selection of prize winners in the three areas: black and white print, artistic slide show and educational slide series.

Black and white print contest winners will be used on the covers of NAUI News, artistic slide show winners will provide entertainment at the Awards gathering, and educational slide winners may have their materials marketed by NAUI as part of a future program.

The purpose of the educational slide series competition is to encourage instructors to develop and share instructional materials for underwater education. Any training concept, topic, or subject required by NAUI for basic or sport scuba courses may be used.

The artistic slide show competition is intended to encourage underwater photographers to assemble their finest work into a story, an impression or an emotion about the U/W environment.

The purpose of the black and white print competition is to acquire photographs for the covers of NAUI News.

First prize for the artistic and educational slide competition is \$200. First prize for the black and white print competition is \$75.

For details and an entry form write: NAUI, Box 630, Colton, Calif. 92324.

## Chamber Hotline for Tenn. Divers

The State of Tennessee now has an emergency plan to handle dive accidents where a recompression chamber is needed. If your party is diving in Tennessee and needs a chamber, call the nearest highway patrol dispatch:

Knoxville .....693-7311  
Chattanooga .....886-2276  
Nashville .....741-2060  
Memphis .....386-3831  
Kingsport .....246-4161  
Cookville .....526-6144  
Lawrenceburg .....762-2322  
Jackson .....668-7474

These people will be able to help you in an emergency and cut the time it takes to get a diver to a chamber. Tell the dispatcher it is a dive accident and a recompression chamber is needed. Also, advise any doctor at the scene, or in a hospital emergency room, that he can obtain help on how to treat or transport the victim by calling the dispatcher.

Every dive club should check with its state police to see if that state has such a plan.



## "SWIMMER'S EAR" AURO-dri dries up excessive moisture.

This frequently occurs when water remains in the ear following diving, showering, swimming. Works like an internal swab to dry up excess moisture as it helps keep bacteria and fungi from spreading. More effective than ear plugs. Why risk pain when AURO-DRI not only relieves "Swimmer's Ear" fast but helps prevent inflammation of the outer ear canal.

**auro-dri**

## MOVING?

DON'T MISS A SINGLE ISSUE OF SKIN DIVER!

Let us know your new address right away. Attach an old mailing label in the space provided and print your new address where indicated.

QUESTION ABOUT YOUR SUBSCRIPTION?

When you write, be sure to include a label. It helps us serve you more promptly.

TO SUBSCRIBE OR EXTEND YOUR SUBSCRIPTION—

Check the appropriate boxes below:

- ☐ New subscription. Please allow us up to 60 days to get the first copy into the mail.
- ☐ Renewal subscription. Please include a current address label to insure prompt and proper extension.

- ☐ 1 year \$10.95 or ☐ 2 years \$19 (U.S. Territories & Military only. Other countries add \$1 per year).
- ☐ Payment enclosed or ☐ Bill me (U.S. only)

MAIL TO:

SKIN DIVER  
8725 Sunset Blvd.  
Box 3295  
Los Angeles, CA 90028

Name

Address

City

State

Zip

ATTACH LABEL HERE

(If label is not handy, print OLD address in this space.)



# PARABOLIC

**A real breakthrough in lightweight,  
low volume, ultra-wide view masks...**

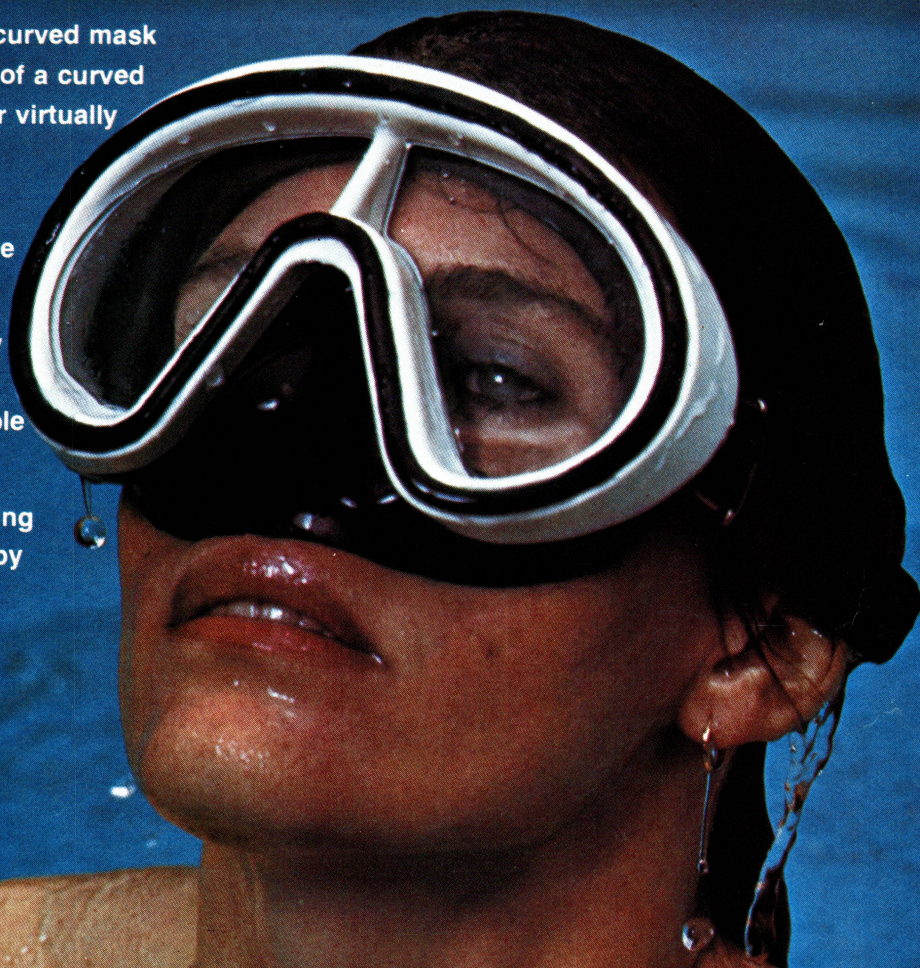
And the secret is in the sleek curved mask frame design. It gives the illusion of a curved lens, but the lens is a flat plane for virtually distortionless viewing underwater.

The streamlined curve allows water to quickly pass by its surface for lower water resistance.

A double lip seal and extremely low volume make the Parabolic the mask of the future and it is available right now from Sportsways.

Once you experience the exciting Parabolic mask, you won't be happy with anything else.

Ask your Sportsways dealer to show you one today.



**Sportsways**

P.O. Box 2407, 2050 Laura Avenue

Send \$2.00 for your all new Sportsways catalog.

Huntington Park, California 90255



(213) 587-4173

**Sportsways: Quietly leading the way.**



# U. S. Divers' Depth Gauges

The trained diver knows the importance of accurately monitoring his depth. Let AQUA-LUNG® depth gauges measure your pleasure underwater.

## OWNER BENEFITS

- U. S. DIVERS' EXCLUSIVE CONSUMER PROTECTION PLAN.
- One-year limited warranty.
- Silicone oil filling protects gauge mechanisms from impact, corrosion and salt deposits.
- Mechanisms consist of C-shaped Bourdon tube for accuracy.
- Highly accurate readings regardless of water temperature.
- Comfortable, easy-to-adjust, non-slip neoprene strap.
- Scratch resistant, replaceable Lexan® lens will not discolor. O-ring sealed.
- Non-radioactive luminous dial faces with easy-to-read graduations and contrasting numbers.



Copyright © 1976 U. S. Divers Co.

3504-52



Jacques-Yves Cousteau  
Chairman of the Board



## U.S. DIVERS CO.

Contact your local Aqua-Lung® Dealer for information. Send \$1.50 for the new 1977 catalog. U. S. Divers Co., 3323 West Warner Ave., Santa Ana, Ca., 92702.

A Subsidiary of  
Liquid Air Corp. of North America

